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Cover Page Footnote

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FAIR USE, GIRL TALK, AND DIGITAL SAMPLING: AN EMPIRICAL STUDY OF MUSIC SAMPLING'S EFFECT ON THE MARKET FOR COPYRIGHTED WORKS

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Abstract

This Article presents an empirical study of digital sampling's effect on the sales of copyrighted songs and how this effect should influence the fair use analysis. To conduct this research, a group of previously sampled songs was identified and sales information for these songs was collected. The over 350 songs sampled in musician Gregg Gillis's (also known as Girl Talk's) most recent album presents an ideal dataset because the album's instantaneous popularity allows for its influence to be analyzed through a comparison of the sampled songs' sales immediately before and after release. Collecting and comparing sales information for these songs found that—to a 92.5% degree of statistical significance—the copyrighted songs sold better in the year after being sampled relative to the year before. To the extent the Copyright Act instructs courts to analyze (among other considerations) the effect an alleged fair use has on the potential market for the original work, these findings favor the conclusion that digital sampling is a fair use, though each statutory fair use consideration should still be considered.

Additionally, the songs sampled in the subject album were evaluated to ascertain the length of each sample and to what degree each sampled song had experienced prior commercial success. This collected data was used to test the hypothesis that more recognizable sampled songs (e.g., songs that were commercial hits or songs that were sampled for a relatively longer period) would see a greater sales increase after being sampled. The

collected data revealed no correlation in postsampling sales increases and sample length or prior commercial success, but further study may be warranted.

Beyond supporting the premise that digital sampling may constitute fair use, the results of this study raise several notable issues for future study. One such issue is that courts only address an alleged fair use's effect on the market for the original as a binary system, wherein the only options are harm to the market (disfavoring fair use) or no harm to the market (favoring fair use). There is no accepted rule on how to treat a market benefit, such as the one evidenced here. The failure to address this issue is problematic because a market benefit actually furthers the utilitarian goal of copyright by incentivizing the creation of new works through economic gain. The current research makes clear the need for precedent on how the fair use analysis should treat actions, such as digital sampling, that may increase sales of the original work. This study sets forth the ground work for an objective financial review of fair use and market effect, which would yield needed predictability and stability to the fair use doctrine—at least, with regard to digital sampling.

Introduction

Music legend George Clinton sold over ten million records in the 1970s[1] and is a member of the Rock and Roll Hall of Fame.[2] By the 1980s, however, most of Clinton's records were out of print and in danger of being forgotten.[3] These albums may never have been reissued, except for one thing: Clinton became a favorite of hip-hop producers who integrated snippets of Clinton's songs, so-called "samples," into their music.[4] The

1. BOB GULLA, ICONS OF R&B AND SOUL: AN ENCYCLOPEDIA OF THE ARTISTS WHO REVOLUTIONIZED RHYTHM 455-56 (2007).

2. RONIN RO, PRINCE: INSIDE THE MUSIC AND THE MASKS 329 (2011).

3. KEMBREW MCLEOD & PETER DICOLA, CREATIVE LICENSE: THE LAW AND CULTURE OF DIGITAL SAMPLING 92-93 (2011).

4. *See* Bridgeport Music, Inc. v. UMG Recordings, Inc., 585 F.3d 267, 273 (6th Cir. 2009). George Clinton and his relationship to hip-hop was described by the Sixth Circuit as such:

> According to expert testimony at trial, "Atomic Dog" "is an anthem of the funk era, one of the most famous pieces from that whole era . . . one of the most famous songs of the whole repertoire of funk and R & B." In addition to the song's continuing popularity on its own, "Atomic Dog" and other works by Clinton and Parliament-Funkadelic are said to have influenced many contemporary rap and hip hop artists, with the most notable being the style of rap popularized by West Coast rappers such as Dr. Dre, Ice Cube, Snoop

sampling of Clinton's work in new music introduced his sound to an entirely new generation and revitalized Clinton's legacy, including the republication of most of his works. Clinton's story raises several important legal issues, such as how music sampling should be treated under copyright law if sampling might *benefit* the copyright holder. This Article presents an empirical study examining this and other related questions in the fields of copyright law and the fair use doctrine.

An important issue in modern copyright jurisprudence is how to address digital sampling of a small portion of a copyrighted song for use as a building block in the creation of a new composition. Some argue this is rote reproduction of a copyrighted work and therefore constitutes infringement.[5] Others assert that sampling does not infringe on the copyright because it is a "fair use,"[6] which is a doctrine that allows for liability-free use of copyrighted material where the work is transformed into a new creative venture.[7] The fair use analysis requires consideration of multiple factors, including the effect the alleged fair use has on the market for the copyrighted work.[8] If the new use benefits the copyright holder—as was the case in the Clinton anecdote above—this factor favors a finding of liability-free fair use.[9] If the new use harms the market for the copyrighted work, fair use is disfavored.[10] While much theoretical work has been done in this field, no study has empirically analyzed the effect sampling has on the market for sales of the copyrighted work (and therefore, how sampling should be treated in the fair use analysis).

This research focuses on a 2010 album called *All Day* by musician Gregg Gillis (working under the *nom de plume* of Girl Talk), which consists of approximately 400 interwoven samples of copyrighted works. This album

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> Doggy Dogg, and Coolio. . . . Testimony at trial confirmed that "Atomic Dog" and other works by Clinton are among the most popular works sampled by rap and hip hop artists.

Id. (citing CHARLES L. HUGHES, AFRICAN AMERICAN NATIONAL BIOGRAPHY 331-32 (Henry Louis Gates, Jr. & Evelyn Brooks Higginbotham eds., 2008)).

5. Lucille M. Ponte, *The Emperor Has No Clothes: How Digital Sampling Infringement Cases Are Exposing Weaknesses in Traditional Copyright Law and the Need for Statutory Reform*, 43 AM. BUS. L.J. 515, 540-47, 559-60 (2006).

6. *Id.* at 519, 519 n.15.

7. *See, e.g.*, Robert Levine, *Steal This Hook? D.J. Skirts Copyright Law*, N.Y. TIMES, Aug. 6, 2008, http://www.nytimes.com/2008/08/07/arts/music/07girl.html.

8. *See* 17 U.S.C. § 107(4) (2012); Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 576-77, 590-94 (1994).

9. *See Campbell*, 510 U.S. at 590-91.

10. *See id.*

presents an optimal case study of the effect sampling has on the sales of an original, copyrighted work and how this effect should influence the fair use analysis. To this end, the songs sampled in Girl Talk's album were identified and the sales information for each song was compared for the year immediately before and immediately after the release of *All Day*. Results show that, to a 92.5% statistically significant degree, the sampled songs sold better after appearing in *All Day*. This Article discusses the relevance of these (and related) findings to the field of copyright law and how these conclusions may support a broader application of the fair use doctrine with regard to sampling of music.

This Article begins with a review of the policy goals and factual premises underlying the present study. Specifically, Part II of the Article provides a policy background on copyright law and the fair use doctrine, followed by a discussion of digital sampling and Girl Talk. Part III sets forth the methodology behind the instant study. In particular, this section describes the means utilized to identify the original source songs sampled in Girl Talk's album *All Day*. In addition, Part III provides information relating to the sampled songs' sales from one year before and after the release of *All Day*, their Billboard Chart performance, and each song's sample length in *All Day*. Part IV presents and analyzes the findings of this study. This discussion statistically evaluates the collected empirical data and addresses any potential sources of error associated therewith. The fifth and final substantive section discusses several conclusions and considerations that arise from the present study. Part V also describes future studies that may advance the knowledge within pertinent fields of scholarship. Appendices further chronicling the study are also included.

II. Background: Copyright, Fair Use, and Digital Sampling

A. The Law and Policy Goals of Copyright

The Intellectual Property Clause of the Unites States Constitution gave rise to the genesis of domestic copyright law. Clearly setting forth an underlying utilitarian goal,[11] the Intellectual Property Clause establishes

11. *See* U.S. Golf Ass'n v. St. Andrews Sys., Data-Max, Inc., 749 F.2d 1028, 1035 n.12 (3d Cir. 1984) ("The constitutional provision authorizing copyrights and patents, and the statutes implementing it, are based on the 'incentive' theory, in contrast to continental systems that are based on a 'natural rights' theory.").

It is of note that utilitarian theories of copyright protection are embodied in both the United States' and English copyright laws. Kim Treiger-Bar-Am, *Kant on Copyright: Rights of Transformative Authorship*, 25 CARDOZO ARTS & ENT. L.J. 1059, 1060 (2008). In

that Congress may pass intellectual property laws to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[12] Furthermore, the first federal copyright law—passed in 1790—was equally utilitarian in that it "only conferred protection upon publication, or when a work was first made available to the public. The instrumental quid pro quo was, therefore, explicit: in return for publishing work and disseminating it to the public, a writer would receive a limited monopoly for exclusive exploitation of the publication."[13]

The utilitarian justification for copyright protection is dependent upon the idea that without such protection, creative works would be produced in lesser quantities because of less incentivization.[14] As such, utilitarian copyright regimes are based upon the premise that the public welfare is best served by motivating individual action through potential monetary gain.[15] Consistent with this theory, the U.S. Supreme Court has recognized that rights granted under the copyright laws are not created primarily to benefit authors; rather, the benefits given to creators of copyrighted works are secondary to public gains from such works.[16] Therefore, while "[t]he immediate effect of our copyright law is to secure a fair return for an author's creative labor[,] . . . the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good."[17]

The exact scope of copyright's limited monopoly is established in Chapter 17 of the United States Code, which sets forth enumerated rights that a copyright holder may enjoy.[18] For example, 17 U.S.C. § 106 grants a copyright holder the exclusive right to reproduce a copyrighted work, prepare derivative works based upon the work, and distribute copies of the

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particular, these goals were embraced in both the U.S. Constitution and England's Statute of Anne. *Id.* at 1060 nn.1-2.

12. U.S. CONST. art. I, § 8, cl. 8; John Tehranian, *Et Tu, Fair Use? The Triumph of Natural-Law Copyright*, 38 U.C. DAVIS L. REV. 465, 470–71 (2005) (noting the Constitution's copyright clause reflects a utilitarian impulse).

13. Tehranian, *supra* note 12, at 471.

14. Lydia Pallas Loren, *The Pope's Copyright? Aligning Incentives with Reality by Using Creative Motivation to Shape Copyright Protection*, 69 LA. L. REV. 1, 6 (2008).

15. Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985).

16. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 429 (1984).

17. *Id.* at 432 (quoting Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975)) (internal quotation marks omitted).

18. 17 U.S.C. §§ 106-122 (2012).

work.[19] These rights apply to multiple forms of expression, including two distinct copyrights that may exist in a song: "[O]ne in the musical composition and the other in the sound recording."[20]

The copyright to a musical composition consists of the "rhythm, harmony, and melody" that make up the song.[21] Restated, "a musical composition is a particular sequence and arrangement of lyrics and/or music that comprise what most people refer to as a song."[22] By contrast, "the sound recording is the sound produced by the performer's rendition of the musical work."[23] As such, a sound recording consists of one "specific performance of a musical work."[24] By way of example, a musical composition copyright would exist in the score to a new symphony expressed on the sheet music performed by an orchestra, whereas a sound recording copyright would protect a recording of the orchestra performing that symphony.

The owner of a sound recording copyright maintains the exclusive rights to produce copies of the work, to prepare derivative works, to distribute copies, and to perform the work publicly by means of a digital audio transmission.[25] However, the rights of reproduction and preparation of derivative works only apply to the actual sounds embodied in the copyrighted work; they do not extend to independent recordings of the sound, even if they intentionally simulate the copyrighted sound recording.[26] With regard to musical compositions, the copyright holder maintains each of these rights, plus the right to publicly perform or display the work.[27]

B. The Law and Policy Goals of Fair Use

Standing in contrast to the limited monopoly granted under the above-described copyright laws, the fair use doctrine is intended to further

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19. This is not a complete list of exclusive rights granted under copyright law. *See* 17 U.S.C. § 106 (2012).

20. Newton v. Diamond, 204 F. Supp. 2d 1244, 1249 (C.D. Cal. 2002) (quoting T.B. Harms Co. v. Jem Records, Inc., 655 F. Supp. 1575, 1576 n.1 (D.N.J. 1987)).

21. Bridgeport Music, Inc. v. Still N The Water Pub., 327 F.3d 472, 475 n.3 (6th Cir. 2003) (per curiam).

22. *Id.* (internal quotation marks omitted).

23. *Newton*, 204 F. Supp. 2d at 1249–50.

24. MARY LAFRANCE, COPYRIGHT LAW IN A NUTSHELL 21 (2d ed. 2008).

25. 17 U.S.C. §§ 114(a), 106 (2012).

26. *Id.* § 114(b); Saregama India Ltd. v. Mosley, 687 F. Supp. 2d 1325, 1339-40 (S.D. Fla. 2009).

27. 17 U.S.C. § 106.

copyright's utilitarian goals of encouraging creative acts by *letting third parties make use of copyrighted works* in limited circumstances. To this end, fair use "allow[s] individuals engaged in productive uses to copy small portions of original works that will facilitate their own productive endeavors."[28] This doctrine prevents rigid application of copyright law where enforcement would stifle the creative activity that copyright is meant to encourage.[29] For example, fair use may be appropriate where the proposed use does not merely attempt to supersede the original work, but rather "adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message."[30] The creation of such a "new expression, meaning, or message" furthers copyright's utilitarian goals, and therefore, should not be stifled by dogmatic application of copyright's limited monopoly.[31]

Evaluation of whether something constitutes a fair use "involves a case-by-case determination using four non-exclusive, statutorily provided factors in light of the purposes of copyright."[32] This doctrine and its four nonexclusive factors were promulgated in the Copyright Act of 1976.[33] That enactment was intended to codify prior fair use case law without altering the doctrine in any way.[34] Uses that are (potentially) a fair use include "criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research."[35] The four statutorily recommended considerations used to determine whether an act constitutes fair use are:

1) [T]he purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

2) the nature of the copyrighted work;

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28. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 497 (1984) (Blackmun, J., dissenting), *superceded on other grounds*, Monge v. Maya Magazines, 688 F.3d 1164 (9th Cir. 2012).

29. Iowa State Univ. Research Found., Inc. v. Am. Broad. Cos., 621 F.2d 57, 60 (2d Cir. 1980).

30. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994).

31. *See id.*

32. Bill Graham Archives v. Dorling Kindersley Ltd., 448 F.3d 605, 608 (2d Cir. 2006).

33. 17 U.S.C. § 107 (2012); *see also* Stewart v. Abend, 495 U.S. 207, 236-37 (1990).

34. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 447 n.29 (1984) (citing H.R. REP. NO. 94-1476, at 66 (1976).

35. 17 U.S.C. § 107.

3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

4) the effect of the use upon the potential market for or value of the copyrighted work.[36]

These four factors are "weighed together, in light of the objectives of copyright 'to promote the progress of science and the useful arts.'"[37] To this end, fair use is meant to "balanc[e] the need to provide individuals with sufficient incentives to create public works with the public's interest in the dissemination of information."[38]

In applying this four-factor test, the Supreme Court has explained that the fourth consideration—"the effect of the use upon the potential market for or value of the copyrighted work"—represents fair use's most important element.[39] "This is so because it touches most closely upon the author's ability to capture the fruits of his labor and hence his incentive to create."[40] However, if an asserted fair use devalues the copyrighted work through a manner that does not attempt to occupy the market for the original work or its derivatives (*e.g.*, through criticism), then this factor should not weigh against a finding of fair use.[41] The present study will focus on the application of this fourth factor (hereinafter "Market Effect" or the "Market Effect Consideration").

Looking to the Market Effect Consideration, the Supreme Court, in *Sony Corp. of America v. Universal City Studios*, explained that the value conferred to a copyright holder constitutes part of the incentivizing bargain provided for under the copyright system.[42] The Court reasoned that if this

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36. *Id.*

37. Dr. Seuss Enters., L.P. v. Penguin Books USA, Inc., 109 F.3d 1394, 1399 (9th Cir. 1997) (quoting H.R. REP. NO. 94–1476, at 65, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5679).

38. Hustler Magazine, Inc. v. Moral Majority, Inc., 796 F.2d 1148, 1151 (9th Cir. 1986).

39. Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 566 (1985) (citation omitted) (internal quotation marks omitted).

40. Bond v. Blum, 317 F.3d 385, 396 (4th Cir. 2003).

41. On Davis v. Gap, Inc., 246 F.3d 152, 175–76 (2d Cir. 2001).

42. 464 U.S. 417, 450–51 (1984). Specifically, the Supreme Court stated:

> Congress has . . . directed us to consider "the effect of the use upon the potential market for or value of the copyrighted work. . . ." The purpose of copyright is to create incentives for creative effort. Even copying for noncommercial purposes may impair the copyright holder's ability to obtain the rewards that Congress intended him to have. But a use that has no demonstrable effect upon the potential market for, or the value of, the copyrighted work need not be prohibited in order to protect the author's incentive to create. The prohibition of such noncommercial uses would merely inhibit access to ideas

value was intended to provide the copyright holder with a specific incentive to create, then a second work that did not inhibit this value could not possibly undermine such an incentive.[43] Restated, the Court found it appropriate to determine if a second work harmed the value of the original work during the fair use calculus because, if the second work devalued the original work, then it undermines part of the consideration given to the copyright holder (and therefore, undermines the copyright holder's incentive to create). Based upon this logic, *Sony* held that evidence of a work not affecting the commercial value of a copyrighted work weighed in favor of a finding of fair use.[44]

In summary of the system as a whole, the copyright regime grants a limited monopoly for the utilitarian purpose of incentivizing creative works. However, in some circumstances, dogmatic enforcement of this limited monopoly would actually stifle creative actions, and thus, the fair use doctrine exists as a limitation to copyright's granted monopoly. Under this doctrine, a third party is able to make use of copyrighted works to further its creative endeavors if such use would serve the utilitarian goals of copyright law.[45] In determining whether application of the fair use doctrine would serve to incentivize creative activity, Congress enacted 17 U.S.C. § 107, which provides four nonexclusive considerations to be evaluated in making this determination. Included in these four factors is the subject of this study, namely, the Market Effect Consideration (i.e., "the effect of the use upon the potential market for or value of the copyrighted work").[46]

C. Digital Sampling and Girl Talk

The following subsection first describes the process of digital sampling, reviews the practice's history, and summarizes the judicial treatment of sampling under the copyright laws and fair use doctrine. Second, this subsection introduces musician and proponent of music sampling, Gregg

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without any countervailing benefit.

Id. (citations omitted).

43. *Id.*

44. *Id.*

45. *See* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 576-77, 590-94 (1994); U.S. Golf Ass'n v. St. Andrews Sys., Data-Max, Inc., 749 F.2d 1028, 1035 n.12 (3d Cir. 1984). The Author does not propose to know the optimal levels of copyright protection and fair use rights that will incentivize maximum creation of new works. This section merely recognizes that, in assessing a copyright regime and its fair use provisions, one must recognize that fair use is a part of a larger system. Accordingly, fair use jurisprudence should reflect such a relationship.

46. 17 U.S.C. § 107(4) (2012).

Gillis, who performs under the stage name Girl Talk. Gillis's sample-heavy music (which employs hundreds of unlicensed samples of copyrighted songs per album) provides the empirical data upon which the present study is based. As mentioned in the introduction of this paper and further detailed below, the current investigation attempts to garner insight into the Market Effect Consideration and digital sampling by examining the effect Gillis's sampling had on the sales of the copyrighted songs he sampled.

1. Digital Sampling

"[Digital s]ampling is the process of digitally copying a portion of a pre-existing recording and inserting this 'sample' into a new recording."[47] Using digital sampling techniques, one can "manipulate a recorded fragment of sound from a preexisting recording and then use it as a part of a new composition, realized as another recording."[48] Thus, sampling, per se, requires the reproduction of another's (presumably) copyrighted sound recording. Premised on this fact, some commentators assert that digital sampling should be "written off as stealing."[49] Others argue the contrary, stating that "sampling is just a form of musical borrowing[, which is] . . . a long-established musical practice."[50] However, to discuss such issues without some historical and legal background would be imprudent. Therefore, a review of the origins of sampling and its subsequent treatment in the courts follows.

a) Early History of Sampling and Licensing

The first instances of musical sampling were conducted without the benefit of digital equipment.[51] The individual doing the sampling (i.e., the

47. Stephen R. Wilson, *Music Sampling Lawsuits: Does Looping Music Samples Defeat the De Minimis Defense?*, 1 J. HIGH TECH. L. 179, 179 (2002) (citing DONALD S. PASSMAN, ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS 306 (2000)).

48. Jeremy Beck, *Music Composition, Sound Recordings and Digital Sampling in the 21st Century: A Legislative and Legal Framework to Balance Competing Interests*, 13 UCLA ENT. L. REV. 1, 2 (2005) (citing Jeffrey R. Houle, *Digital Audio Sampling, Copyright Law and the American Music Industry: Piracy or Just a Bad "Rap"?*, 37 LOY. L. REV. 879, 880–82 (1992)).

49. Amanda Webber, Note, *Digital Sampling and the Legal Implications of Its Use After Bridgeport*, 22 ST. JOHN'S J. LEGAL COMMENT. 373, 373–74 (2007).

50. Rahmiel David Rothenberg, *Sampling: Musical Authorship Out of Tune with the Purpose of the Copyright Regime*, 20 ST. THOMAS L. REV. 233, 240–41 (2008) (citing J. PETER BURKHOLDER, THE NEW GROVE DICTIONARY OF MUSIC AND MUSICIANS 35 (2d. ed. 2001)).

51. John Schietinger, Note, Bridgeport Music, Inc. v. Dimension Films*: How the Sixth Circuit Missed a Beat on Digital Music Sampling*, 55 DEPAUL L. REV. 209, 211-12 (2005).

"disc jockey" or DJ) utilized analog record turntables and a mixer to loop, cut, and integrate various sections of records into a new musical work.[52] These techniques developed further in the 1980s with the advent of digital samplers,[53] which allow an individual to integrate many sampled sounds into a single song.[54] "As samplers became more affordable . . . disc jockeys began to produce their beats and to record marketable versions of their performances with the aid of samplers."[55]

The Sugar Hill Gang's "Rapper's Delight"[56] numbered among the earliest recognizable instances of sampling[57] when they employed an unauthorized sample of the song "Good Times"[58] by Chic.[59] Both "Rapper's Delight" and "Good Times" became commercial successes, reaching number thirty-six[60] and number one[61] on the Billboard Charts, respectively. Similarly, in 1990, Vanilla Ice sampled (without authorization) Queen and David Bowie's "Under Pressure"[62] in his hit "Ice, Ice Baby,"[63] which also reached number one on the Billboard Charts.[64]

The Sugar Hill Gang and Vanilla Ice's commercially successful use of unauthorized samples did not go unrecognized by the copyright holders of the sampled works. In both instances, the owners of the underlying copyrights threatened to bring suit and ultimately forced a settlement

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52. JEFFREY SPAULDING & SAHARA GISNASH, CAREER BUILDING THROUGH DIGITAL SAMPLING AND REMIXING 10–11 (2008); Schietinger, *supra* note 51, at 211.

53. *See, e.g.*, Steven Dupler, *Fairlight Is Hopeful About Digital Sampler Growth*, BILLBOARD, Nov. 15, 1986, at 48 (describing advances made in digital sampling technology).

54. MCLEOD & DICOLA, *supra* note 3, at 4.

55. Schietinger, *supra* note 51, at 212.

56. THE SUGAR HILL GANG, RAPPER'S DELIGHT (Sugar Hill Studios 1979).

57. *See* NELSON GEORGE, HIP HOP AMERICA 29-31, 60, 93 (1998).

58. CHIC, GOOD TIMES (Atlantic 1979).

59. Schietinger, *supra* note 51, at 212. It is of historical note that the Sugar Hill Gang did not actually sample directly from a recorded copy of "Good Times," but rather had a house band play the sample, which was then recorded for use in "Rapper's Delight." ANN GRAHAM GAINES, DON'T STEAL COPYRIGHTED STUFF!: AVOIDING PLAGIARISM AND ILLEGAL INTERNET DOWNLOADING 127 (2008).

60. GEORGE, *supra* note **Error! Bookmark not defined.**, at 60.

61. FRED BRONSON, THE BILLBOARD BOOK OF NUMBER ONE HITS: UPDATED AND EXPANDED 508 (5th ed. 2003).

62. QUEEN & DAVID BOWIE, UNDER PRESSURE (EMI 1981).

63. VANILLA ICE, ICE ICE BABY (SBK Records 1989); Schietinger, *supra* note 51, at 213.

64. JOE STUESSY & SCOTT LIPSCOMB, ROCK AND ROLL: ITS HISTORY AND STYLISTIC DEVELOPMENT 414 (5th ed. 2006).

between the parties.[65] Under the threat of legal action by the members of Chic, the Sugar Hill Gang was forced to acknowledge the members of Chic as co-writers of "Rapper's Delight"[66] and pay an undisclosed royalty for using the sample.[67] Similarly, Vanilla Ice eventually settled with Queen and David Bowie to avoid litigation, agreeing to pay royalties for his use of "Under Pressure" in "Ice, Ice Baby."[68]

Another example of early sampling was MC Hammer's use of Rick James's "Super Freak"[69] in "U Can't Touch This" (1990).[70] Unlike the Sugar Hill Gang and Vanilla Ice, MC Hammer licensed "Super Freak" and credited Rick James as a cowriter prior to sampling.[71] "U Can't Touch This"—and its authorized sample of "Super Freak"—would prove so popular that the album in which it was featured (*Please Hammer, Don't Hurt 'Em*) would find its way to number one on the Billboard Charts and become the best-selling rap album at that time.[72]

The licensing of "Good Times," "Under Pressure," and "Super Freak" were significant steps toward the current practice of paying to sample copyrighted works. However, each of these contracts was entered into with significant legal uncertainties for both sides, as sampling and copyright infringement had never previously been litigated.[73] This would change in subsequent years.

b) Sampling Enters the Courts

In the early 1990s, the legal status of digital sampling could best be described as "unpredictable."[74] At that point, no one in the music industry

65. Shervin Rezaie, Comment, *Play Your Part: Girl Talk's Indefinite Role in the Digital Sampling Saga*, 26 TOURO L. REV. 175, 180 (2010); Schietinger, *supra* note 51, at 213.

66. Rezaie, *supra* note 65, at 180.

67. MARK COLEMAN, PLAYBACK: FROM THE VICTROLA TO MP3, 100 YEARS OF MUSIC, MACHINES, AND MONEY 145 (2005); Gaines, *supra* note 59, at 127.

68. Schietinger, *supra* note 51, at 213.

69. RICK JAMES, SUPER FREAK (Gordy 1981).

70. MC HAMMER, U CAN'T TOUCH THIS (Capitol 1990); *id.* at 212. MC Hammer's use of "Super Freak" was recognized by *Spin* magazine as the number-one sample of 1990. *Nathaniel Wice's 1990 Top Ten Samples*, SPIN, Dec. 1990, at 49.

71. JAMES FRANKEL, THE TEACHER'S GUIDE TO MUSIC, MEDIA, AND COPYRIGHT LAW 145–46 (2009).

72. CHERYL L. KEYES, RAP MUSIC AND STREET CONSCIOUSNESS 96 (2004).

73. Randy S. Kravis, *Does a Song by Any Other Name Still Sound as Sweet?: Digital Sampling and Its Copyright Implications*, 43 AM. U.L. REV. 231, 235-36 (1993).

74. Beck, *supra* note 48 (citing Michael L. Baroni, *A Pirate's Palette: The Dilemmas of Digital Sound Sampling and a Proposed Compulsory License Solution*, 11 U. MIAMI ENT. & SPORTS L. REV. 65, 91 (1993)).

(or in legal academia) knew how copyright law and the fair use doctrine would apply to digital sampling. The practice's first important foray in the courtroom came in 1991 in *Grand Upright Music Ltd. v. Warner Bros. Records, Inc.*[75]

In *Grand Upright Music*, the plaintiff sought to enjoin rapper Biz Markie's sampling of Raymond "Gilbert" O'Sullivan's copyrighted song, "Alone Again (Naturally)."[76] Biz Markie admitted that his song "Alone Again" utilized three words from "Alone Again (Naturally)" and sampled a portion of O'Sullivan's sound recording.[77]

The court first addressed whether the copyright was valid and whether the plaintiff was the proper copyright-holder, and thus, able to bring suit.[78] Resolving the issues in the affirmative, the court noted that the most important evidence supporting this finding was that the defendants attempted, albeit without success, to license "Alone Again (Naturally)" prior to sampling the song.[79]

Based on Biz Markie's admitted sampling and the determinations that the copyright stood valid and the plaintiff qualified as the copyright owner, the court granted the requested preliminary injunction prohibiting use of the accused sample.[80] Notably, the court took this action without significant discussion of whether sampling actually constituted copyright infringement or whether fair use might be applicable.[81] Additionally, the court—noting the defendants' "callous disregard for the law and for the rights of others"—requested that the United States Attorney for the Southern District of New York determine whether criminal prosecution remained appropriate for these transgressions.[82]

c) The Present State of Digital Sampling and the Law

In 2005, the Sixth Circuit issued the leading case on digital sampling, ruling in *Bridgeport Music, Inc. v. Dimension Films* that sampling a copyrighted sound recording is per se infringement.[83] The case rose to the Sixth Circuit after the plaintiffs appealed the trial court's grant of the

75. 780 F. Supp. 182 (S.D.N.Y. 1991); *see also* Bridgeport Music, Inc. v. Dimension Films, 410 F.3d 792, 801 n.12 (6th Cir. 2005).

76. 780 F. Supp. at 183.

77. *Id.*

78. *Id.* at 183.

79. *Id.* at 184-85.

80. *Id.* at 185.

81. *Id.*

82. *Id.*

83. *See* 410 F.3d 792, 801-02 (6th Cir. 2005).

defendant's motion for summary judgment based on a lack of actionable copyright infringement.[84] In pertinent part, the trial court found the defendants' sample of "Get Off Your Ass and Jam" by George Clinton, Jr. and the Funkadelics in the song "100 Miles and Runnin'" was so minimal as to constitute a de minimis use.[85] A de minimis use is "something so insignificant as to be disregarded" in the eyes of the law.[86]

It remained undisputed that the defendants had sampled "Get Off,"[87] and therefore the plaintiffs alleged that the sampling constituted infringement of both the sound recording and the composition.[88] To the extent these claims related to the composition copyright, the trial court resolved this issue in the defendants' favor, finding that they held an earlier license to sample the copyrighted work.[89] The Sixth Circuit did not revisit this finding, and therefore, its opinion was limited solely to the alleged sound recording infringement.[90]

Plaintiff's expert testified that the defendants took a two-second sample from a guitar solo in "Get Off," lowered the sample's pitch, and then replayed the sample in succession to create a seven-second segment.[91] While the trial court found that a short, unrecognizable sample was de minimis, and thus, could not constitute copyright infringement, the plaintiffs argued the de minimis inquiry should not be undertaken where sampling is uncontested.[92] The Sixth Circuit agreed, holding that *any* sampling (of any length) necessarily constituted copyright infringement of the sound recording.[93]

The Six Circuit's holding was premised upon several policy arguments:

- Simplicity – "Get a license or do not sample."[94] The simplicity of this rule attempted to create "something approximating a bright-line test[,] . . . [which would add] clarity to what constitutes actionable

84. *Id.* at 795.

85. *Id.* at 795–96.

86. BLACK'S LAW DICTIONARY 524 (10th ed. 2004). The phrase "de minimus" is a shortening of the Latin phrase *de minimis con curat lex*, which means that "the law does not concern itself with trifles." *Id.*

87. *Bridgeport Music*, 410 F.3d at 801.

88. *Id.* at 795.

89. *Id.*

90. *Id.* at 798.

91. *Id.* at 796.

92. *Id.* at 797-98.

93. *Id.* at 801-05.

94. *Id.* at 801.

infringement with regard to the digital sampling of copyrighted sound recordings."[95]

- Independent Reproduction – Because the court's opinion was limited solely to the copyrighted sound recording (which is inapplicable where the alleged infringer independently created a sound recording that mimicked the copyrighted work) the opinion noted that independent creation was a ready alternative to sampling.[96]
- Market Restraints – The market should control prices charged for sampling sound recordings.[97] The copyright holder will not be able to charge license fees in excess of what it would cost a potential sampler to create a noninfringing alternative, namely an independent reproduction of the copyrighted sound recording.[98]
- Intent – Digital sampling requires an overt choice to create an infringing sample.[99] It is not possible for an *innocent* actor to inadvertently infringe on a sound recording's copyright when engaging in digital sampling.[100]

While each of these policy statements facially appears to benefit the copyright system, *Bridgeport Music* is not without detractors.[101] First, some argue that *Bridgeport Music*'s rejection of the de minimis standard for infringement stands contrary to the purpose, past application, and express wording of the copyright laws.[102] Moreover, some contend that the case is overly mechanical in its interpretation of the Copyright Act in contravention of the Supreme Court's "instruction that, in periods of rapid technological change, the Act is to be construed with the purpose of encouraging the creation of new works and expanding the public

95. *Id.* at 799.
96. *See id.* at 801.
97. *Id.*
98. *Id.*
99. *Id.*
100. *Id.*
101. In a nearly comical indictment of the opinion, one commentator stated, "The court of appeals reversed in an opinion that is a compendium of almost every error that can be made in construing the U.S. Copyright Act." WILLIAM PATRY, HOW TO FIX COPYRIGHT 92 (2012).
102. Schietinger, *supra* note 51, at 230–34.

domain."[103] Lastly, some have voiced concerns that *Bridgeport Music*'s reliance on market restraints and independent reproduction appears misplaced.[104] These commentators maintain that potential licensors of copyrighted works may seek irrationally high license fees and that independent reproduction stifles creativity by denying a user's artistic choice to utilize a particular sample.[105]

However, each of these concerns may be of little consequence, depending on whether (and how) fair use is utilized by a court applying the *Bridgeport Music* standard.[106] The relevant fair use case law is discussed below.

d) Copyrighted Music and Modern Fair Use Jurisprudence

The seminal opinion in modern fair use jurisprudence, especially with regard to music, is the Supreme Court's 1994 case, *Campbell v. Acuff-Rose Music, Inc.*[107] In that opinion, the Court addressed whether "Pretty Woman," a song by 2 Live Crew, constituted a fair use commercial parody of Roy Orbison's "Oh, Pretty Woman."[108]

As an initial matter, no argument was made that the secondary work failed to constitute copyright infringement absent a finding of fair use.[109] In addressing this topic, the Court first acknowledged copyright law's long-recognized need to allow some use of copyrighted works to further the regime's utilitarian goals.[110] For example, the opinion referenced an 1803 English opinion, which stated that "while I shall think myself bound to secure every man in the enjoyment of his copy-right, one must not put manacles upon science."[111] Presumably, by referencing "science," this

103. Reuven Ashtar, *Theft, Transformation, and the Need of the Immaterial: A Proposal for a Fair Use Digital Sampling Regime*, 19 ALB. L.J. SCI. & TECH. 261, 277 (2009) (citing Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349–50 (1991)).

104. *See* Eric Charles Osterberg, *Should Sound Recordings Really Be Treated Differently Than Other Copyrighted Works? The Illogic of* Bridgeport v. Dimension Films, 53 J. COPYRIGHT SOC'Y U.S.A. 619, 639-40 (2006).

105. *Id.* at 640.

106. *Id.* at 641-42 (noting *Bridgeport Music* establishes a "case-by-case, multi-factor analysis," but that courts are permitted "to consider an indefinite number of unidentified other factors").

107. 510 U.S. 569 (1994).

108. *Id.* at 571-72.

109. *Id.* at 574.

110. *Id.* at 575.

111. *Id.* at 575–76 (quoting Carey v. Kearsley, (1803) 170 Eng. Rep. 679 (K.B.) 681).

quote utilized the term in a manner consistent with the U.S. Constitution, namely that "science" meant knowledge or learning.[112]

In applying the statutorily mandated fair use considerations, the Court first noted that the alleged fair use constituted a parodic version of the copyrighted work, which favored a finding of fair use.[113] The opinion then turned to the commercial nature of 2 Live Crew's usage of "Oh, Pretty Woman," a factor the appellate court held to essentially require a finding of no fair use.[114] Conversely, the Supreme Court noted that commercial use merely equaled one "'factor that tends to weigh against a finding of fair use.'"[115]

Prior to discussing the Market Effect Consideration, the Court recognized that both the nature and quantum of the copyrighted work used were of little significance in an alleged parodic fair use, as the new work must utilize a significant portion of the recognizable parts of a creative work for the parody to prove effective.[116]

In addressing the Market Effect Consideration, the Court stated that this factor was not limited to the possible effect of this particular asserted fair use on the market for the copyrighted good.[117] Rather, the reviewing court must determine "'whether unrestricted and widespread conduct of the sort engaged in by the defendant . . . would result in a substantially adverse impact on the potential market' for the original."[118] Moreover, the Market Effect Consideration applies not only to the market for the copyrighted work, but also to the market for licensing the work for use in derivatives.[119] Furthermore, the Court held that, outside of "mere duplication of the entirety of an original," no effect on the applicable market should be presumed or inferred.[120] Rather, any alleged market effect should be evidenced. In resolving the Market Effect Consideration, *Campbell* concluded that no recognizable market damage was present in the case at bar.[121] With each of the above-described considerations in mind, the Court

112. EDWARD C. WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE: A STUDY IN HISTORICAL PERSPECTIVE 125 (2002).
113. *Campbell*, 510 U.S. at 581–83.
114. *Id.* at 583–85.
115. *Id.* at 585 (citation omitted).
116. *See id.* at 586–89.
117. *Id.* at 590.
118. *Id.* (alteration in original) (citation omitted).
119. *Id.*
120. *Id.* at 591.
121. *Id.* at 593-94.

held that the allegedly infringing parody constituted a fair use, and remanded the case for further consistent proceedings.[122]

Looking to the current study, several aspects of *Campbell* and its fair use analysis stand out. First, *Campbell* recognized that some degree of market evaluation is necessary to conduct the fair use calculus.[123] If a plaintiff argues that an allegedly infringing work negatively affects the market for the copyrighted work, this position must be factually substantiated, except in cases of rote duplication of the original work.[124] However, this market influence is not limited to sales of the work. Market effect can also be shown in derivative markets.[125] While the subject of derivative market effect is germane to the issue of digital sampling and fair use, an empirical analysis of this topic lies beyond the scope of the current study, which solely addresses the effect on the market for sales of the original work.

Unfortunately, despite *Campbell*'s (and related cases') description and application of the fair use doctrine, no objective, predictable standard has arisen.[126] As discussed below, this state of affairs has created a system in which sample licensing is pervasive and fair use is—at least arguably—underused.

e) Licensing Practices for Digital Sampling

Bridgeport Music's instruction to "[g]et a license or do not sample"[127] created a predictable move towards licensing of any utilized sample.[128] Unsurprisingly, this movement was not slowed by the (potential) availability of the fair use defense to accusations of copyright infringement associated with non-licensed samples because of the unpredictability and ambiguity of the doctrine.[129] In this state of affairs, "those who want to make use of copyrighted material cannot make accurate ex ante judgments

122. *Id.* at 594.

123. *See id.* at 590-94.

124. *See id.* at 590-91.

125. *See id.* at 590.

126. *See* Pamela Samuelson, *Unbundling Fair Uses*, 77 FORDHAM L. REV. 2537, 2540 (2009) ("Fair use is, however, often decried for the unpredictability said to attend the fact-intensive, case-by-case nature of fair use . . . .").

127. Bridgeport Music, Inc. v. Dimension Films, 410 F.3d 792, 801 (6th Cir. 2005).

128. *See* MCLEOD & DICOLA, *supra* note 3, at 141–44.

129. *See* Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the* Betamax *Case and Its Predecessors*, 82 COLUM. L. REV. 1600, 1604 (1982) ("[T]he ambiguity of the fair use doctrine and its statutory formulation obscure the underlying issues and make consistency and predictability difficult to achieve.").

regarding the need to secure a license from the rights-holder."[130] Thus, risk-averse businessmen (i.e., record producers) are unwilling to utilize a non-cleared sample in the face of potential supracompensatory damages and the availability of injunctive relief for copyright infringement.[131] This has resulted in the current system in which record companies are unwilling to distribute an album absent clearance of every sample contained therein.[132]

However, "[c]learing samples is not easy because there is nothing in the law that requires the copyright holders to give the necessary permission, which gives record companies and publishers the power to stop the release of music containing such samples."[133] Some have attempted to avoid this problem by creating a uniform sampling rate or a sample clearance system.[134] However, their efforts have proven largely unsuccessful, and therefore, sample licensing must be undertaken on a case-by-case basis.[135] Such an individualized approach to sample clearance necessitates the inclusion of attorneys (and associated transaction costs) in the sampling lifecycle.[136] Unsurprisingly, this business reality has led to the formation of large-scale "sample clearance houses" that specialize in obtaining rights to use specific samples, or, in the case of some large-scale record companies, employment of specialized sample clearance attorneys.[137] The existence of such specialized legal counsel is to be expected, given that sampling negotiations can lead to flat-fee licenses estimated to range between $5,000 and $50,000.[138]

As discussed above, a sampled portion of a song may embody two different types of copyright: the sound recording and the musical composition.[139] In order to legally sample a song (absent implication of fair

130. James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 884–86 (2007).

131. *See id.* at 887-90.

132. PATRY, *supra* note 101, at 93.

133. Webber, *supra* note 49, at 392.

134. *Id.* at 392-93.

135. *Id.*

136. MCLEOD & DICOLA, *supra* note 3, at 149–50.

137. *Id.*

138. Webber, *supra* note 49, at 393-94 (citing DONALD S. PASSMAN, ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS 307–08 (Simon & Schuster 2000)).

139. *Id.* at 392-93; *see also* Brooke Shultz, Note, *Sound Recordings: "Get a License or Do Not Sample"*, 7 TUL. J. TECH. & INTELL. PROP. 327, 330-31 (2005).

use), a party must obtain a license for both copyrights, which further drives up the cost of sampling copyrighted works.[140]

These costs are not insignificant and may be outcome determinative with regard to whether a sample-based album is released. As discussed later in this Article, the present study may influence music executives' decisions regarding whether to rely on the fair use defense when deciding whether to license sampled songs (or when deciding whether to release an entire album that contains samples). Such an influence has significant potential impact on the music industry.

2. Gregg Gillis and Why Girl Talk's All Day Is an Optimal Case Study

Gregg Gillis, also known as Girl Talk, is a musician who creates songs by splicing together small, but recognizable, portions of other musicians' songs.[141] To this end, a single Gillis track may contain elements of classic rock, heavy metal, rap, and pop songs (among any number of other types of music).[142] The resultant creation has been described as "mix[ing] 'Top 40' radio hits into a unique postmodern audio pastiche."[143] Standing alone, this formula for making music might garner little controversy. However, Gillis creates his musical collages *without licensing any of the copyrighted songs that he samples*.[144]

Gillis began the Girl Talk project in 2000 before attending college.[145] He then split his time between music and employment as a biomedical engineer.[146] By 2006, Girl Talk began to garner significant public attention when Gillis's third album, *Night Ripper*, was named to both *Rolling Stone*'s and *Pitchfork*'s lists of the best albums of the year.[147] This success allowed Gillis to quit his engineering job and focus solely on his music career.[148]

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140. Webber, *supra* note 49, at 393-94.

141. Thomas M. Byron, *Past Hits Remixed: Fair Use As Based on Misappropriation of Creative Value*, 82 MISS. L.J. 525, 526 (2013).

142. *See* MCLEOD & DICOLA, *supra* note 3, at 1-2.

143. Rezaie, *supra* note 65, at 175.

144. Michael D. Ayers, *White Noise*, BILLBOARD, June 14, 2008, at 27.

145. Rebecca Raber, *Gregg the Ripper: Girl Talk's Pop Collage Pushes the Boundaries of Genre and the Law*, CMJ NEW MUSIC MONTHLY, Sept. 2006, at 22; Ryan Dombal, *Interviews: Girl Talk*, PITCHFORK (Aug. 30, 2006), http://pitchfork.com/features/interviews/6415-girl-talk/.

146. Dombal, *supra* note 145.

147. Rezaie, *supra* note 65, at 176 (citations omitted).

148. Matthew Newton, *Girl Talk*, SPIN, Oct. 2008, at 42.

Girl Talk's 2008 release, *Feed the Animals*, enjoyed a similarly favorable response when *Rolling Stone* named it one of 2008's fifty best albums.[149]

Gillis's popular renown and choice to not license the songs he sampled made him the focal point of the legal community's ongoing debate over copyright law, fair use, and digital sampling.[150] Shortly thereafter, commercial music sites such as eMusic and iTunes chose to stop offering his music for download.[151] Presumptively, these stores decided to not carry Girl Talk's music out of fear of potential legal repercussions. Despite the setbacks, Gillis maintains that his use of copyrighted works constitutes fair use, and therefore, he is insulated from copyright liability.[152] The legal community is divided on the issue. This issue has yet to bear itself out in the courtroom, but Gillis risks being sued for copyright infringement with every album.[153] As described below, Girl Talk's unauthorized use of copyrighted works presents an optimal case study on whether sampling of copyrighted works favors or disfavors a finding of fair use under the Market Effect Consideration (i.e., whether Gillis's unauthorized samples have a statistically significant effect on the sales of the sampled works).

The subject of this study, Girl Talk's album *All Day*, was made available for free download from Gillis's record label's website on November 15, 2010.[154] Gillis announced the album's release on his Facebook page and Twitter feed, and shortly thereafter, rampant downloading of the album caused the Illegal Arts' website to crash and remain down for several days.[155]

The significant downloading of *All Day* in November 2010 created two distinct compilations of data regarding the sales of the songs sampled therein: sales before and sales after the release of the album. The creation of such a dataset allows for a previously unaddressed study, namely what effect unauthorized sampling has on the market for the sampled work (i.e.,

149. *Rolling Stone's Top 50 Albums of 2008*, ROLLING STONE, Dec. 25, 2008, at 91.

150. *See* Steven Levy, *Levy: Politics and Hip-Hop Are Doing a Mash-Up*, NEWSWEEK (June 25, 2007), http://www.newsweek.com/levy-politics-and-hip-hop-are-doing-mash-103989.

151. *Id.*

152. *Girl Talk Chops Pop Music to Pieces*, NPR MUSIC (Oct. 10, 2008), http://www.npr.org/templates/story/story.php?storyId=95596414.

153. *See id.*

154. James Montgomery, *Girl Talk Apologizes for Breaking the Internet with* All Day, MTV NEWS (Nov. 15, 2010), http://www.mtv.com/news/articles/1652329/girl-talk-apologizes-breaking-internet-with-all-day.jhtml.

155. *Id.*; Vera Golosker, Note, *The Transformative Tribute: How Mash-Up Music Constitutes Fair Use of Copyrights*, 34 HASTINGS COMM. & ENT. L.J. 381, 386 (2012).

the Market Effect Consideration in the fair use analysis). As discussed below, evaluation of this dataset shows that sales of the sampled songs were greater in the year after release of *All Day* to a 92.5% statistical significance.[156]

III. The Empirical Study

As previously described, the present research was designed to evaluate the effect that digital sampling has on the market for sales of sampled copyrighted songs. To this end, a study of the Market Effect on the more than 300 songs sampled in Girl Talk's *All Day* was undertaken. In order to conduct this research, data relating to multiple aspects of the present question were collected:

- Sampled Songs – a complete list of the songs sampled throughout *All Day*.
- Sales Data – weekly sales information for each of the sampled songs for one year before and one year after the release of *All Day*.
- Length of Sample – the respective lengths of the individual samples used in *All Day*.
- Peak Chart Success – the highest Billboard Hot 100 chart entry for each sampled song.
- Date of Chart Success – the day each sampled song reached its peak position on the Billboard Hot 100.

This information was copiled into a single database from which statistical evaluations could be performed. The following subsections describe the purpose for each set of data and how each dataset was compiled.

A. Sampled Songs

The first step in conducting this investigation was creating a cumulative list of the copyrighted works sampled by Girl Talk in *All Day*. This information was readily available from Girl Talk's record label's (i.e., Illegal Art's) website.[157] From this source, the names and artists of 374

156. *See infra* Parts III-IV.

157. *Girl Talk—All Day Samples List*, ILLEGAL ART, http://illegal-art.net/allday/samples.html (last visited Dec. 27, 2014).

sampled songs were located.[158] Hereinafter, this list of sampled works will be referred to as the "Sample List."[159]

B. Sales Data

Beyond the Sample List, the primary information necessary to conduct the current study consisted of the sales data for the sampled songs for a period before and after the release of *All Day*. From this information, data pertaining to the effect Girl Talk's sampling had on the market for the copyrighted works could be ascertained.

To this end, weekly sales data (Sales Dataset) were obtained for each of the sampled songs for one year before and one year after the release of *All Day*. The author purchased this information from Nielsen Sound Scan ("Nielsen"). This purchase was independently funded, so as to avoid any appearance of outside influence on the study. Consistent with the terms of the author's license from Nielsen, this data can be presented in this study in aggregate forms, but data associated with specific entries on the Sample List cannot be reproduced.

Nielsen was requested to provide sales data for all 374 songs on the Sample List. In July 2012, weekly information was produced for 336 songs for the time period from November 16, 2009 to November 20, 2011. This constituted sales data for fifty-two weeks before and after *All Day*'s release date of November 15, 2010. For ease of nomenclature, these fifty-two week periods will be referred to as the "Year Before" and the "Year After." The week during which *All Day* was released was not included in the Year Before or the Year After.

As shown in Figure 1 below, raw data pulled from this sample shows the following sales information for the Year Before and the Year After:

FIGURE 1: RAW SALES DATA OF SAMPLED SONGS

Year Before	60,211,260 units sold
Year After	29,174,956 units sold
Decrease in sales from the Year Before to the Year After	-51.5%

158. *Id.*

159. *See infra* Appendix A.

This raw data finds, with regard to all songs sampled in *All Day*, an aggregate decrease in sales of over thirty million units (>50%). However, this raw information requires further analysis. For example, as discussed above, Girl Talk commonly samples hit songs. With this in mind, Gillis utilized many hits from the Year Before, but, lacking clairvoyance, he did not sample the hits that would come *after* release of *All Day*—i.e., in the Year After and beyond. As discussed in detail below, this fact disproportionally weighted sales data toward the Year Before when many of the sampled songs were hits. In example of this phenomenon, over 50% of the net decreased sales from the Year Before to the Year After were attributable to *eight* songs that were hits in the Year Before.

C. Length of Sample

A third dataset was compiled for this research, namely the respective lengths of the individual samples used in *All Day*. This information is relevant because it can be used to test the hypothesis that a consumer is more likely to make purchasing choices regarding the sampled songs if they are able to consciously recognize that song, and the likelihood of conscious recognition increases with how long the consumer hears a sample. Restated, the hypothesis posits that sales are more likely to be affected by *All Day* for songs sampled for a longer time.

The information in the sample length dataset was compiled from the Mashup Breakdown website.[160] This website provides information on when a particular sample begins and ends in *All Day*. By simple subtraction, the website provides the lengths of samples in the album. From this source, sample length information was determined for 263 of the 336 songs for which sales data was obtained (78.3%). The length of each respective sample is presented in Appendix B.

The identified samples ranged in length from a maximum of two minutes and thirty-one seconds to a minimum of one second, with an average sample length of thirty-seven seconds.[161] Of the 263 songs included in this dataset, sixty-seven songs were sampled for five seconds or less and 107 songs were sampled for fifteen seconds or less.[162]

160. *Girl Talk—All Day*, MASHUP BREAKDOWN, http://mashupbreakdown.com (last visited Dec. 27, 2014).

161. *See infra* Appendix B.

162. *See infra* Appendix B.

D. Peak Chart Success

The fourth dataset amassed for this study was the peak Billboard Hot 100 (Chart or Billboard Chart) chart entry for each sampled song. This information is germane to the present study to test the hypothesis that a consumer is more likely to make purchasing choices regarding a sampled song if they recognize that song, and the consumer is more likely to recognize songs that have previously experienced widespread exposure through commercial success, as evidence by inclusion on the Billboard Hot 100 chart.

The information regarding Billboard Hot 100 entries was obtained from Billboard's website[163] and *Rolling Stone* magazine (which prints the Billboard Hot 100 in each issue). From these sources, Chart information was determined for each of the songs for which sales data were available. The Billboard data for each respective sample is presented in Appendix B.

Of the 336 songs for which sales data was available, 210 (62.5%) had placed on the Billboard Charts at some point.[164] Within that subset, thirty-eight songs were number-one hits, 102 peaked within the top ten, and 179 reached the top fifty.[165] This data supports the prior assertion that Girl Talk commonly samples "hits" in his audio collages.

E. Date of Chart Success

The final dataset collected for this Article consisted of the dates the Sample Songs reached their peak on the Billboard Hot 100 Charts. As with the peak Chart entry dataset, the dates of Chart entry were obtained from Billboard's website and *Rolling Stone* magazine and is reproduced in Appendix B. As described above, 62.5% of the sampled songs placed on the Billboard Charts, and therefore, date of Chart success information was obtained for that percentage of the sampled songs.

This information is relevant because an elevated position in the Charts is indicative of a high level of sales at that particular point in time.[166] A decrease in sales following this Chart peak will almost necessarily follow. This is important to the present study because a peak followed by (and

163. *The Billboard Hot 100*, BILLBOARD, http://www.billboard.com/biz/charts/the-billboard-hot-100 (last visited Dec. 27, 2014).

164. *See infra* Appendix A & B.

165. *See infra* Appendix B.

166. *See, e.g.*, Michael Ellis, *Hot 100 Singles Spotlight*, BILLBOARD, Dec. 21, 1985, at 61 (describing that radio airplay and record sales are the two components of the Billboard Hot 100 Chart entries); Geoff Mayfield, *Hot 100 Spotlight*, BILLBOARD, Apr. 3, 1999, at 93 (same).

preceded by) lower sales could interfere with the ability to test the effect sampling has on the sales of copyrighted works.

Specifically, to the extent that a song's sales are elevated near the time of its peak Chart entry, this phenomena presents a sales variation that is wholly distinct from any effect that sampling might have on sales. Rather, the elevation and fall of the hit record's sales is attributable to current market preferences. Data that represents current market preferences (in contrast to sales that are influenced by digital sampling of a copyrighted work) serve to distort sales information with regard to the influence that sampling has on the sales of the copyrighted work. Accordingly, steps must be taken to remove this source of insignificant "noise" from the current dataset. As discussed below, several songs that reached their sales peak near the release date of *All Day* were removed from the dataset to isolate pertinent information (and remove "noise" from the evaluated data).

IV. Analysis of the Collected Data

Section IV presents a statistical evaluation of the collected data. The first subsection analyzes the sales data with a particular emphasis on identifying songs whose sales were likely affected by an influence unrelated to digital sampling or Girl Talk. This course of action was necessary to isolate relevant information (the signal) and remove extraneous information (the noise).

The following subsection addresses the primary inquiry of this Article: whether there exists a significant difference in sales for the sampled songs between the Year Before and the Year After *All Day*'s release? As discussed below, this analysis found a statistically significant increase, at 92.5% confidence, in sales for the Sampled Songs after being featured in *All Day*.

The next subsections address whether a relationship exists between post-sampling sales variations and either the length of the sample or the prior commercial success of the sampled work (as shown by Chart performance). These analyses were intended to identify whether a consumer is more likely to purchase a sampled song if that song was more easily identifiable because of past commercial success and/or because the song's sample was relatively lengthy. The study found no correlation between either variable and an increase in post-sampling sales.

The final part of this section discusses potential sources of error found in the study and what influence the potential error may have had on the investigation. Future improvements on similar studies are also discussed. In addition, statistical methods employed in this study are briefly introduced,

with each method being described immediately prior to its first use in the analysis.

A. Removal of Recent Songs from the Sample Set

This subsection reduces sources of error in the study by eliminating songs from the dataset that are expected to have had sales fluctuations near the release of *All Day* that were not attributable to Girl Talk or *All Day*. As discussed below, this was accomplished by removing songs that experienced sales spikes during the relevant period due to whims of the marketplace that are unrelated to *All Day*.

1. Removal of Recent Hits from the Dataset

It is a near tautology that a song will have its greatest sales when it is highest on the Charts. A song that was high on the Charts at (or shortly before) the time that *All Day* was released would almost necessarily see a drop in sales from the peak Chart entry during the relevant time period of this study. Such a drop in sales is irrelevant to the Market Effect Consideration in this investigation, as the change in sales was probably due to the whim of market participants, as opposed to any Market Effect due to the song's use in *All Day*.

As discussed above, for this study, the Billboard Hot 100 was utilized. Introduced in 1958, the Billboard Hot 100 is the definitive chart for the record industry.[167] Presently, the Chart quantifies a song's current popularity by combining its radio play, record store sales, and digital sales (though the metric has changed over time).[168]

For purposes of this paper, Recent Hits are defined as songs that reached their apex on the Charts at a point in time near the release of *All Day*, such that they introduce sales variations into the dataset that are unrelated to their use in *All Day*. As described below, the data supports a conclusion that a Recent Hit should be defined as a song that peaked on the Charts *after* May 15, 2008.

Of the 336 songs included in the Sales Dataset, 210 of these songs reached the Billboard Chart (62.5%). To ascertain which of these songs should be considered Recent Hits, the Sales Dataset was divided into several subsets to determine if any obvious sales deviations were apparent, such that the sales of songs in particular subsets could be attributed to their Chart success near the release of *All Day*. Songs that satisfy this

167. BRONSON, *supra* note 61, at xii.

168. *Billboard Charts Legend*, BILLBOARD, http://billboard.com/biz/billboard-charts-legend (last visited Dec. 27, 2014).

requirement were removed from the Sales Dataset. The chart below shows the results of a comparison of the sampled songs' date of peak Chart entry (relative to the release of *All Day*) and the percentage change in sales from the year before and the year after *All Day* was released.

FIGURE 2 - SALES CHANGE RELATIVE TO DATE OF CHART PEAK

Time Before Release of All Day	*Percentage Change from Pre-Year to Post-Year*	*Number of Entries*
0-6 Months Before	-11.7%	9
6-12 Months Before	-84.0%	13
12-18 Months Before	-80.1%	15
18-24 Months Before	-49.8%	12
24-30 Months Before	-37.0%	7
30-66 Months Before	10.9%	8
66+ Months Before	4.4%	145

As seen in Figure 2, significant sales deviations were recognizable for sampled songs that reached their peak Chart position near the release of *All Day*. Specifically, songs that peaked within thirty months of *All Day*'s release showed substantial changes in their sales in the Year Before and the Year After. The six-month time periods studied during those thirty months showed an average percentage change of over 50%, compared with an absolute value change of 10.9% or less in all subsequent periods. The data from each of the periods of dramatic change proves consistent with the theory that sales for *Recent Hits* decline for a period following their peak Chart entry (and that this decline is not related to *All Day*).

Beginning with songs that reached their peak Chart entry more than thirty months prior to the release of *All Day*, the dramatic swings associated with *Recent Hits* trailed off. The peak Chart entries between thirty and sixty-six months before *All Day* was released showed an absolute value change of less than 11%, followed by less than 4.4% in the remaining earlier Charting songs.

The above data demonstrate a trend that is particularly relevant to the current study. All songs that reached their peak Chart entry within thirty months of the release of *All Day* (i.e., after May 15, 2008) continued significant shifts in their sales (that could be attributed to their *Recent Hits*

status) and were recognizable. To the contrary, songs that reached their peak entry over thirty months *prior* to the release of *All Day* displayed no such change that could be attributed to their status as a *Recent Hit*.

Thus, as described above, in order to remove songs with sales data that would be biased due to their status as *Recent Hits*, the present study removed any song that reached its peak Chart entry less than thirty months *before* the release of *All Day*. As shown by Figure 2, and described in the preceding paragraphs, these *Recent Hits* displayed significant, even violent, shifts in their sales patterns that should not be attributed to any act by Girl Talk; rather, the patterns should be attributed to the whims of the market associated with the tendency of purchasing songs near their peak Chart entry.

2. Removal of Songs Released Shortly Before All Day

Consistent with the above discussion of Recent Hits, it is expected that non-Charting songs released shortly before *All Day* would experience sales variations during the temporal scope of this study that are unrelated to being sampled. Specifically, it is generally expected that the sales of a given song, Charting or non-Charting, would peak during a relatively short period after the song's release with a continued decline in sales until the song reached a steady state wherein sales are expected to remain constant, absent some third-party influence (e.g., being covered by another band, used in a movie, sampled by Girl Talk, etc.).

In order to isolate sales data affected by sampling in *All Day*, it was appropriate to remove all songs, including those that failed to make the Billboard Chart, that have not yet reached this steady state of sales after experiencing an initial spike in popularity immediately after release. With this in mind, songs released after January 1, 2008, were excluded from the dataset.[169] This action was prudent for two reasons.

169. It is of note that the removal of *Recent Hits* and songs released after March 15, 2010, seem very similar in nature. However, the two subsets must be treated (and removed) separately to maximize the quality of the dataset. *Recent Hits* were removed first because that group of songs (and the related sales information) was used to determine during what period the songs' sales were influenced by market whims unrelated to *All Day*. As these songs had certainly enjoyed sales peaks (associated with their highest Chart entry), this subset was the best possible data from which to determine the time it took a song (after its sales peak) to reach a steady rate of sales. As discussed above, this time period was determined to be thirty months. For this determination, non-Charting songs were not included because there is no objective evidence that these songs experienced a sales peak unrelated to *All Day* (e.g., appearance on the Charts). Therefore, these songs should not be included in the group that was used to determine the time necessary for a song to reach

First, non-Charting songs released in 2008 or later presumably reached peak popularity near or after May 15, 2008. As described above, songs that peaked on the Charts after this date experienced sales fluctuations that were unrelated to the subject matter of this study, and therefore, were removed from the relevant dataset. This same logic is applicable to non-Charting songs that experienced a peak in popularity (though not Charting) during the same period. Accordingly, it was appropriate to remove any song released after January 1, 2008, from the relevant dataset. This may have been over-inclusive to the extent that it excluded songs whose sales may not be have been influenced by non-*All Day* factors, but as described below, this is of little consequence.

Second, the above-described removal of non-Charting songs released after January 1, 2008, should not be expected to bias this study *even if the above-stated assumption regarding outside influence on sales data is false*. Specifically, even if a non-Charting song did not experience a sales spike immediately after its release (that was unrelated to *All Day*), the removal of such a song from the dataset should not materially alter the study. If no such sales spike actually exists for a particular song, then removal of that song should not affect the dataset, as the song is expected to already be at a steady state (with regard to sales), and its removal would not significantly bias the study. At worst, removal of such a song simply reduces the size of the sample set by one data point, which is not a significant problem due to the relatively large sample size.

With the above in mind, all Recent Hits and non-Charting songs released after January 1, 2008, (Recent Songs) were removed from the dataset for the balance of this study. Removal of Recent Songs leaves the dataset at 237 songs that: (a) did not reach a peak Chart entry after May 15, 2008, or (b) were not released after January 1, 2008.

B. Aggregate Comparison of Pre- and Post-Sampling Sales Data

This subsection addresses the primary question of this research: to what extent does sampling of a copyrighted work affect the sales of the original work after being sampled? To address this question, all Recent Songs were removed from the relevant dataset (as discussed above) and the sales for the remaining songs were compared for the year before and the year after *All Day* was released. First, a simplistic review of the relevant data (i.e., sales

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steady sales after a sales peak (to the extent possible). It was best to only use songs that *certainly* experienced a sales spike (as shown through Chart entry) to make that determination. However, the non-Charting recent songs should still be removed from the study because *it is likely* that these songs experienced such a sales peak.

information for all 237 songs in the dataset) revealed that the average sampled song sold over 1300 more copies in the year *following* the release of *All Day* than the year preceding. In the aggregate, this accounted for a sales increase of 3.2%. However, the statistical importance of such raw data must be evaluated.

As described below, the observed increase in sales in the year after *All Day*'s release is statistically significant at the 92.5% confidence level. Restated, if 237 songs (the size of this sample set) were randomly selected and their respective sales numbers for the two one-year time periods studied, an increase in sales of this magnitude, or possibly greater, would only be seen approximately 7.5% of the time.[170] As discussed in the following paragraphs, a paired-difference test was employed to reach this conclusion.

The paired-difference test determines whether (and to what confidence interval) a statistically significant difference exists between two datasets that consist of related pairs of data taken under varied circumstances (where the change in circumstances is the focus of the study).[171] As applied to the current study, the related pairs of data are the sales numbers for a particular song. The variation in circumstances is whether or not the song had been sampled in *All Day* when the sale occurred.[172]

Because the raw data described above showed a net increase in sales for the sampled songs in the year after, the paired-difference test evaluates the validity of the hypothesis that there was a sales increase for the average sampled song from the Year Before to the Year After.

For this evaluation, the following data is necessary:

- Average sales difference between the Year Before and Year After, $\bar{d} = 1328.1$ units
- Number of paired observations (i.e., the number of sampled songs), $n = 237$ songs

170. MICHAEL SMITHSON, CONFIDENCE INTERVALS 1 (Paper No. 140, Quantitative Applications in the Social Sciences, Sage Univ. 2003).

171. WILLIAM MENDENHALL & ROBERT J. BEAVER, INTRODUCTION TO PROBABILITY AND STATISTICS 376–78 (9th ed. 1994).

172. To apply this method of evaluation, the paired observations must be randomly selected from a normally distributed population. *Id.* at 279. It is reasonable to assume this limitation to be satisfied. Initially, the songs included in this database appear to have no inter-relationships, beyond (apparently random) selection for inclusion in *All Day*.Moreover, sales distributions for records are assumed to be normal for this study.

- The difference in sales from the Year Before to the Year After for song number *i*, d_i. This information cannot be published per the Author's contract with Neilsen Sound Scan.

From this information, the following was calculated[173]:

- The Test Statistic: $t = đ / (s_d / n\text{^}.5) = 1.479$
- Where $s_d = ((\Sigma((d_i - đ)\text{^}.5))/(n-1))\text{^}.5$

Once the Test Statistic *t* is calculated, it can be compared to the critical value t_α, wherein 1 - α is the relevant confidence interval from the Student's T-Distribution.[174]

Resolving all of the above calculations (including the sales data for each song in the database that cannot be reproduced here) reveals that the increased sales in the Year After are statistically significant to a 92.5% confidence interval. This information supports the hypothesis that there was a statistically significant increase in sales in the Sampled Songs during the relevant period.

C. Sales Data Relative to Prior Chart Success

A secondary part of this study is meant to determine what (if any) correlation there is between prior Chart success of a sampled song and any change in sales after its sampling in *All Day*. Ascertaining this information is helpful in determining whether consumers are more likely to purchase a sampled song that previously enjoyed commercial success. The assumption underlying this question is that a consumer is more likely to recognize (and subsequently purchase) a previously popular song after hearing it sampled relative to a less popular song.

The correlation between prior Chart success and changes in post-sampling sales was evaluated in two ways. First, this study determined whether there was a distinction in postsampling sales for songs that appeared on the Chart versus those songs that did not. Second, the study determined if there was a correlation between peak Chart position and postsampling sales (for works that appeared on the Chart).[175] These evaluations found no statistically significant connection between prior Chart success and elevated sales after sampling.

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173. *Id.* at 379.

174. *Id.* at 353–56.

175. As discussed above, both of these subsections will remove *Recent Songs* from the current dataset, as recent hits introduce market influences into the dataset that are not related to sampling (and any effect that sampling has on sales). *See supra* Part IV.A.2.

1. There Is No Evidence that Charting Songs Were Purchased at Higher Levels

This subsection compares the purchase rates of sampled songs that appeared on the Billboard Charts with their non-Charting peers. To do this, the postsampling percentage sales changes were compared for songs that previously appeared on the Billboard Charts versus non-Charting songs (with *Recent Songs* removed). As shown in Figure 3, there was a small, but not statistically significant, distinction in postsampling sales behavior.[176]

FIGURE 3 - SALES CHANGE: SONGS THAT CHARTED V. SONGS THAT DID NOT CHART

Sample	*Average Post Sampling Sales Change (per song)*	*Number of Songs in Sample*
Songs that Previously Charted	3.5%	152
Songs that Never Charted	-1.8%	85

Finding no evidence of a statistically significant difference in the postsampling sales change between Charting and non-Charting songs, the next subsection examines the post-sampling sales effect for all songs that appeared on the Chart relative to their commercial success (i.e., highest Chart entry).

2. Sales Data Relative to Peak Chart Entry

This subsection tests for the existence of a correlation between a sampled song's peak Chart entry and its post-sampling sales change. The subset discussed in this subsection consisted exclusively of sampled songs that appeared on the Billboard Chart, (with *Recent Hits* removed). As discussed below, there appears to be no correlation between a sampled song's peak Chart entry and its post-sampling sales change.

To test the above hypothesis, sampled songs that appeared on the Billboard Charts were broken into quartiles based on their peak Chart entry (e.g., peak entry 1-25, 26-50, etc.) and then were compared to their

176. The statistical significance was calculated assuming that the samples included in *All Day* were randomly and independently selected from all songs and that the percent change for such songs is normally distributed. *See* MENDENHALL & BEAVER, *supra* note 171, at 323.

quartiles' net post-sampling sales change. As shown in the Figure below, no trend was shown from songs that peak at Chart positions 1-25 to 76-100.

FIGURE 4: PEAK CHART ENTRY V. NET SALES CHANGE

Peak Chart Entry	*Net Sales Change*	*Number of Songs*
1-25	4.0%	102
26-50	6.7%	28
51-75	6.9%	10
76-100	-4.4%	12

The data do not support the hypothesis that songs with higher peak-Chart entries are immediately more recognizable, which would lead to higher post-sampling sales.[177] As such, this finding militates against a determination that a sampled song's peak Chart entry correlates with a change in sales after sampling.

Taken together, the above subsections do not support the hypothesis that market success (as shown through appearance on the Billboard Chart) positively correlates with increased postsampling sales. First, there was no statistically significant evidence that a song's appearance on the Charts correlates with an increase in postsampling sales. Second, there was no evidence that (within the scope of songs that appeared on the Charts) higher Chart performance leads to an increase in post-sampling sales. With these conclusions in mind, the present study does not support the related

177. The chart below, which further breaks down the Charted songs, finds consistent results:

Peak Chart Entry	*Net Sales Change*	*Number of Songs*
1	5.6%	27
2–10	1.5%	53
11–20	8.7%	15
21–30	0.4%	18
31–50	15.8%	17
51–75	6.9%	10
76–100	-4.4%	12

hypothesis that songs that previously appeared on the Charts (and thus, are presumably more recognizable due to prior commercial success) are more likely to be purchased after being sampled, relative to less commercially successful songs.

D. Sales Data Relative to Length of Sample

This subsection discusses whether the length of the sample is correlated to an increase or decrease in postsampling sales. The underlying hypothesis is that a longer sample is correlated with increased postsample sales, because the listener has a greater chance of recognizing the sampled song (thus, increasing the likelihood of a postsampling purchase).

In order to describe how strong a linear correlation between two variables is, statisticians employ the Pearson product moment coefficient of correlation (Correlation Coefficient), which is commonly represented as *r*.[178] This correlation is always expressed as a number between -1 and 1.[179] Within this range, a coefficient of 0 exists where two variables have no linear correlation, and the coefficient expands towards -1 and 1 as the strength of the correlation increases inversely and directly, respectively.[180] The use of correlation coefficients must be closely monitored, as a few outlying data points can strongly affect the determined value of *r*.

To determine the Correlation Coefficient for two datasets, one must employ the following relationship:[181]

$$r = 1/(n-1) * \Sigma (((x_i - \bar{x})/s_x) * ((y_i - \bar{y})/s_y))$$

In this equation, x_i and y_i are the two variables associated with an individual (e.g., sales increase/decrease and length of a sample for an individual sampled song), n is the total number of individuals (i.e., the number of songs addressed in a particular dataset), $\bar{x}$ and $\bar{y}$ are the means for the two variables, and s_x and s_y are the standard deviations for the respective datasets.[182] The scales of measurement for x and y are irrelevant in determining a Correlation Coefficient, and it is insignificant which dataset is defined as x or y (as the connotation of x or y does not imply any causal relationship in this instance).

The length of the 188 songs (excluding Recent Songs) for which sample length data is available was correlated to the postsample percentage change

178. DAVIS S. MOORE, GEORGE P. MCCABE, & BRUCE CRAIG, INTRODUCTION TO THE PRACTICE OF STATISTICS 101-02 (6th ed. 2009).

179. *Id.* at 103.

180. *Id.*

181. *Id.* at 102.

182. *Id.*

for each of those songs, respectively. This dataset found a correlation coefficient of -.05, which demonstrates that sales slightly *decreased* as the length of the sample increased. This basic comparison does not support the hypothesis that a longer sample is more likely to be purchased after being sampled because the listener has a greater likelihood of recognizing the sample. However, further investigation is warranted.

As recognized above, in determining a correlation coefficient *r*, care must be taken to ensure that a few outlying data points do not inappropriately affect the determined value of *r*. With this in mind, a second comparison of the length of the samples versus the post-sample sales was run, wherein samples of a particular range of lengths were grouped and the aggregate percent sales change for that group was compared to the average sales change within each range. For example, all samples between one to ten seconds in length were grouped together, the sales data and change for the entire group was aggregated, and this information was compared to other such groupings. For this substudy, the dataset of sampled songs was broken down into ten groupings with at least eight sampled songs in each group. To maintain the minimum sample sizes, the groups were created in ten-second increments (e.g., one to ten seconds) from one to ninety seconds and the remaining twelve samples were grouped into a 91+ second category. The groupings were broken down as follows:

FIGURE 5: CALCULATING THE CORRELATION COEFFICIENT FOR SAMPLE LENGTH VERSUS SALES CHANGE

Sample Length (seconds)	*Average Sample Length (seconds)*	*Aggregate % Change from Pre-Year to Post-Year*	*Songs in Sample*
1-10	3.1	2.4%	70
11-20	15.7	0.1%	17
21-30	25.8	1.6%	13
31-40	35.4	10.4%	8
41-50	44.1	7.4%	9
51-60	56.1	13.3%	11
61-70	66.2	-7.2%	18
71-80	74.7	-8.3%	20
81-90	85.9	-10.7%	10
91+	111	17.8%	12

The Correlation Coefficient for this breakdown of the dataset (looking for a correlation between the aggregate percentage sales change in each group and the average sample length in each group) was determined to be .02, which shows a very small (insignificant) positive correlation between the length of a sample and an increase in post-sampling sales. This data does nothing to support the theory that a longer sample is more likely to be recognized (leading to more postsampling sales). Subsequent sections discuss the full relevance of these findings.

E. Potential Sources of Error

This subsection describes potential sources of error associated with this study and whether these sources of error are believed to have influenced the findings. Potential improvements on future studies are also discussed.

1. Market Fluctuations in Music Sales

One source of error that should be considered is the absence of a controlled-study environment. Ideally, all potential variables (besides the one being studied) are held constant in order to isolate the effect of the variable in question (e.g., the effect that sampling in *All Day* had on the market for the copyrighted work). Unfortunately, the current study was undertaken in a marketplace where music sales vary from year to year based upon the whim of the consumer and the strength or weakness of the consumer market.

To evaluate any possible error arising from market variations occurring during the scope of this study, the United States Census Bureau's Monthly Retail Trade Report ("Monthly Retail Trade Report") was consulted for the relevant periods (i.e., the Year Before (November 16, 2009, to November 14, 2010) and the Year After (November 22, 2010, to November 20, 2011).[183] This report provides aggregate national estimates of monthly sales by type of service/product.[184] Of note to the current study, the Monthly Retail Trade Report provides sales information for "sporting goods, hobby, book, and *music stores*."[185] The information provided therein is normalized

183. *See* MONTHLY RETAIL TRADE REPORT: RETAIL AND FOOD SERVICE SALES, U.S. CENSUS BUREAU (1992-present), *available at* http://census.gov/retail/ (follow "Retail and Food Service Sales: Excel (1992-present)" hyperlink).

184. *Id.*

185. ANNUAL REVISION OF MONTHLY RETAIL AND FOOD SERVICES: SALES AND INVENTORIES—JANUARY 1992 THROUGH APRIL 2013: INTRODUCTION, U.S. CENSUS BUREAU 10 (2013), *available at* http://www.census.gov/retail/mrts/www/benchmark/2013/html/annrev13.html (follow "Introduction" hyperlink) (emphasis added).

for expected seasonal variations in sales, but is not adjusted for changes in the value of currency over time.[186]

From this report, the aggregate national sales in the relevant market for the Year Before and the Year After are $81.07 billion and $82.48 billion, respectively.[187] Adjusted for inflation, the aggregate national sales for the Year Before and the Year After are $79.65 billion and $78.63 billion (stated in 2009 dollars), respectively.[188] Thus, during the relevant time period, aggregate national spending at sporting goods, hobby, book, and music stores *decreased* by 1.3%.

Rather than serving as a source of error, this observation further supports the finding that sales increased in the Year After. This is because the aggregate number of sales in the Year After *increased*, despite the fact that the overall amount of money spent in the relevant field actually *decreased*.

However, this support is not without qualifications. First, the above-cited sales numbers relate to sporting goods, hobbies, books, *and* music. It is possible (though perhaps unlikely) that one of the nonmusic fields experienced a precipitous drop in sales during the relevant period, and therefore, the 1.3% sales drop should not be attributed to music. Unfortunately, the granulated information necessary to further evaluate this question was not available. Moreover, the available information does not take into consideration any changes in the market for song downloads during the relevant period. It is possible that significant changes in the market for song downloads occurred during the temporal scope of this study, but that information is not currently available. Taking everything into consideration, the net 1.3% drop in sales in the relevant field does not introduce a source of error but rather, supports the present findings.

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186. *Id.* at 4-5.

187. ANNUAL REVISION OF MONTHLY RETAIL AND FOOD SERVICES: SALES AND INVENTORIES—JANUARY 1992 THROUGH APRIL 2013: ESTIMATES OF MONTHLY RETAIL AND FOOD SERVICES SALES BY KIND OF BUSINESS, U.S. CENSUS BUREAU *passim* (2013), *available at* http://www.census.gov/retail/mrts/www/benchmark/2013/html/annrev13.html (follow "Estimates of Montly Retail and Food Services Sales by Kind of Business" hyperlink) (using 2013 sales estimates). Partial months included in the Year Before and the Year After are included in the aggregate sales number pro-rata.

188. Inflation rates were obtained from the United States Department of Labor. *CPI Inflation Calculator*, BUREAU OF LAB. STAT., http://www.bls.gov/data/inflation_calculator.htm (last visited Dec. 27, 2014). For current purposes, all 2010 dollars were accepted to equal $0.98 2009 dollars, and all 2011 dollars were accepted to equal $0.95 2009 dollars.

2. Download Information for All Day

Another potential source of error (or an area for improvement in subsequent studies) arises from a lack of information about exactly how many copies of *All Day* were downloaded and when these downloads occurred. As discussed below, this information would have benefitted this study in several ways, and inclusion of this type of information should be considered in subsequent studies.

Knowing the exact number of downloads of *All Day* would have added additional reliability and depth to conclusions of this study. While the release of *All Day* caused such a frenzy of downloading that it "broke[] the Internet,"[189] specific download statistics would have allowed this study to determine a ratio of downloads of *All Day* to increases in sales of the sampled songs. From this information, the value added to each of the sampled songs (through increased sales) from each download of *All Day* could be estimated. Moreover, knowledge of the exact number of *All Day* downloads could serve as a check on the study's conclusions, in that the aggregate increase in sales of the sampled songs could be compared to the downloads of *All Day* to determine if the downloading of *All Day* could have reasonably caused the increase in sampled songs sales.

Further, knowledge about the pattern of when *All Day* was downloaded (e.g., monthly download figures) would be beneficial to this study. Presently, this study only looks to two discrete time periods (i.e., the Year Before and the Year After *All Day* was released). However, this does not perfectly model the real world. In reality, downloads of *All Day* occurred over a period beginning on November 15, 2010 (the album's release date) and continuing to the present day. As such, a model that simply compares sales of the sampled songs before and after *All Day*'s release (such as the current study) ignores the fact that *All Day*'s influence on the market for the sampled songs was not static over time. The number of people downloading and listening to *All Day* (and thus, the number of people being influenced to buy the sampled songs) increased from the day the album was released. As such, if *All Day* was influencing sales choices, there would be some causal relation between the number of downloads of *All Day* (in any given month) and a resulting sales increase in the sampled songs. For instance, if there was a tremendous spike in downloads of *All Day* in March 2011, a related spike in purchases of sampled songs would be expected to follow shortly thereafter (e.g., in March or April of 2011). Recognition of such a correlation would further support the conclusions of this study, and

189. Montgomery, *supra* note 154.

inclusion of this data would benefit subsequent studies. However, although knowledge of the precise number and timing of *All Day* downloads would benefit this study, it does not appear that the lack of this knowledge introduces any actual error into the current analysis. This is because the absence of this information does not seem to undermine the validity of any of the data collected.

V. Potential Impact of the Present Study

This section discusses the potential importance of the current study. Further, to the extent these findings raise issues that warrant further research, possible future studies are discussed.

It is of note that, unless otherwise stated, the below subsections assume the current findings are reproducible in different circumstances and are broadly applicable to digital sampling. The Author encourages future research to confirm that such beliefs are correct.

A. Evidence that Sampling Benefits Copyrighted Works and Fair Use

With regard to the fair use analysis, the Market Effect Consideration is "undoubtedly the single most important element of fair use."[190] Judicial conclusions about this factor come in three varieties: market harm,[191] neutral market effect,[192] and benefit to the market for the original work.[193] Regarding the market for sales of the original work, courts have commonly limited their discussion to whether an alleged fair use harmed the market or had no effect on the market.[194] This binary approach to the Market Effect Consideration (i.e., harm or no harm) is questionable in light of the statutory language of the Copyright Act, which states that the focus is on "the *effect* of the use upon the potential market for or value of the copyrighted work."[195]

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190. Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 566 (1985).

191. Cambridge Univ. Press v. Becker, 863 F. Supp. 2d 1190, 1235 (N.D. Ga. 2012), *rev'd*, Cambridge Univ. Press v. Patton, 769 F.3d 1232 (11th Cir. 2014).

192. Righthaven, LLC v. Hoehn, 792 F. Supp. 2d 1138, 1150-51 (D. Nev. 2011), *aff'd in part*, *vacated in part*, 716 F.3d 1166 (9th Cir. 2013).

193. Bond v. Blum, 317 F.3d 385, 396 (4th Cir. 2003).

194. *See, e.g.*, *Becker*, 863 F. Supp. 2d at 1235 (The Market Effect Consideration "focuses on whether Defendants' . . . use of excerpts of Plaintiffs' copyrighted works adversely affected the potential market for or value of the copyrighted work in question.").

195. 17 U.S.C. § 107 (2012) (emphasis added).

Looking solely to the market for sales of the sampled songs,[196] the current study favors expanding the Market Effect Consideration to determine whether there is a detriment, no effect, or a *benefit* from the alleged fair use. Under current law, a copyright infringement plaintiff's failure to establish a negative Market Effect "favors a finding of fair use."[197] This precedent—in conjunction with the results of the present study—raises the issue of how proof of a *positive* Market Effect (i.e., enhanced sales of the copyrighted work) should be treated in the fair use analysis. While proposing a new method of fair use analysis is beyond the scope of this work, it is expected that such evidence would strongly favor a finding of fair use (since a finding a neutral Market Effect already weighs towards a finding of fair use).[198]

Giving significant weight to a finding of a positive Market Effect is consistent with the idea that the Market Effect Consideration is of particular importance "because it touches most closely upon the author's ability to capture the fruits of his labor and hence his incentive to create."[199] If digital sampling (or some subset of digital sampling) has the capacity to enhance sales of a copyrighted work, this further incentivizes music creation because it creates income for the copyright holder. Therefore, because the benefits to copyright holders from sampling are directly related to the primary utilitarian goals of copyright (such as those evidenced in this study,[200] they should be given significant weight in the fair use analysis.

Further, to the extent the copyright system is presently under call for review and potential revision,[201] the present findings should be considered.

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196. The Market Effect Consideration applies not only to the market for the copyrighted work, but also to the market for licensing the work for use in derivatives. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 590 (1994). This consideration is discussed more fully in the following subsection.

197. *See Righthaven*, 792 F. Supp. 2d at 1150–51.

198. *See* Northland Family Planning Clinic, Inc. v. Ctr. for Bio-ethical Reform, 868 F. Supp. 2d 962, 982 (C.D. Cal. 2012) ("In sum, the accused Videos cause no cognizable market harm to the Northland Video. Accordingly, this factor weighs in favor of Defendants.").

199. Bond v. Blum, 317 F.3d 385, 396 (4th Cir. 2003).

200. *See* Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985).

201. Press Release, U.S. House of Representatives Judiciary Comm., Chairman Goodlatte Announces Comprehensive Review of Copyright Law (Apr. 24, 2013), *available at* http://judiciary.house.gov/index.cfm/2013/4/chairmangoodlatteannouncescomprehensivereviewofcopyrightlaw; *The Register's Call for Updates to U.S. Copyright Law: Hearing Before the Subcomm. on Courts, Intellectual Property, & the Internet of the H. Comm. on the Judiciary*, 113th Cong. 4-5 (2013) (statement of Maria A. Pallante, Reg. of Copyrights, U.S. Copyright Office).

Commentators note that the current copyright system has become outdated relative to modern technology,[202] as laws from over thirty years ago are applied to the digital realm. The present study on fair use and digital sampling speaks to this type of issue. As such, to the extent fair use is reevaluated, the legal effect of a market benefit for the copyright holder should be addressed.

Of course, none of the above is an assertion that a positive Market Effect for sales of the copyrighted work should be outcome-determinative in the fair use analysis. All four fair use factors must still be weighed together in ascertaining whether fair use is present.[203] Moreover, as discussed in the following subsection, there is more to the Market Effect Consideration than solely looking at the market for sales of the copyrighted work.

B. Comparing the Value of Increased Sales Versus Lost Derivative Income

The Market Effect Consideration considers not only sales of the copyrighted work, but also secondary markets, such as licensing the work for use in derivatives, including sampling.[204] Accordingly, it is not surprising that copyright holders assert that unlicensed digital sampling harms the market to license their songs.[205] While this type of Market Effect is beyond the scope of the current study, it raises interesting questions related to the use of the current findings and future research.

As described in the prior subsection, the statutory fair use analysis necessitates an inquiry into the effect a new use has on the copyrighted work's market,[206] both primary (e.g., sales of the copyrighted work) and secondary (e.g., licensing of the copyrighted work).[207] This inquiry must consider both markets (primary and secondary), and determine the aggregate effect the alleged fair use has. While proponents for a broad or narrow fair use doctrine as applied to digital sampling may propose various subjective arguments relating to the Market Effect, the present study may be the first step towards formation of an objective foundation upon which to conduct this inquiry.

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202. *See* Jessica Litman, *Real Copyright Reform*, 96 IOWA L. REV. 1, 1–3 (2010).

203. Dr. Seuss Enters., L.P. v. Penguin Books USA, Inc., 109 F.3d 1394, 1399 (9th Cir. 1997).

204. *See* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 590 (1994).

205. Kerri Eble, Note, *This Is a Remix: Remixing Music Copyright to Better Protect Mashup Artists*, 2013 U. ILL. L. REV. 661, 680.

206. 17 U.S.C. § 107 (2012).

207. *See Campbell*, 510 U.S. at 590.

Whereas the instant Article only addresses whether there is a statistically significant increase in sales of songs in the Year After they were sampled, future studies could expand the bounds of the inquiry to quantify an expected increase in value (i.e., sales). This quantity could then be used as a benchmark against which any harm to the market for secondary uses (such as sampling) could be compared. Similarly, harm to the secondary market for a copyrighted work could be evaluated through empirical studies. Comparing these two estimations would allow for an objective valuation of the Market Effect Consideration, which would be a considerable step forward for the fair use analysis. That said, as discussed in the following subsection, it is still expected that sample-specific variables (e.g., sample length, past commercial success of the sampled work, etc.) must be considered in the fair use analysis.

C. Future Study – Influence of Specific Factors on Post-Sampling Sales

Beyond evaluating the net effect that sampling in *All Day* had on the market for the sampled works, this investigation attempted to evaluate whether there was any correlation between postsampling sales and the length of the sample or past commercial success (i.e., Billboard Chart success) of the sampled song. As discussed above, no statistically significant relationship was found. This lack of support for such correlations should not be understood to mean that no correlation exists, however.

Before any increase in postsampling sales can occur, it is necessary that the listener (and potential postsampling purchaser) recognizes the sampled song. For immediate purposes, this is the issue that sample length and prior commercial success are relevant to.[208] The length of the sample represents the listener's window of opportunity to recognize the sampled song (i.e., the longer the sample, the more likely the listener is to recognize the sampled song). Prior commercial success represents the likelihood that a listener already knows the song, such that recognition is a possibility.

As the prior paragraph sets forth, past commercial success and sample length are *almost certainly* relevant to the question of how sampling will affect the market for the sampled song. Thus, while the present investigation found no correlation between these variables and postsampling sales, further research is certainly warranted. The information

208. The length of the sample is also germane to another of the fair use considerations, namely "the amount and substantiality of the portion used in relation to the copyrighted work as a whole." 17 U.S.C. § 107. However, discussion of this factor is outside of the bounds of the immediate discussion.

derived therefrom would be beneficial in multiple ways, including aiding parties negotiating licenses for samples or helping courts analyzing the market impact of sampling.

VI. Conclusion

A commonly debated issue in modern copyright jurisprudence is how to address digital sampling of a copyrighted song for use as a building block in the creation of a new composition. As discussed above, many commentators contend that such an action constitutes a fair use of the copyrighted work, and therefore, the unauthorized sampling should not lead to liability for copyright infringement. To ascertain the validity of such claims, the judiciary must review four statutory fair use considerations, including the effect the alleged fair use has on the market for the copyrighted work. This study found that within the bounds of Girl Talk's *All Day*, unlicensed sampling actually *benefitted* sales of the sampled songs (to a 92.5% degree of statistical significance).

Assuming this finding is reproducible and applies broadly to digital sampling, the present research raises several issues. Courts (or the legislature) must determine how a benefit to the market for a sample work impacts the fair use analysis, since the present analysis only considers whether or not there is a detriment. Further, these results raise the possibility of developing empirical evidence to quantify the value of such a sales increase, which could then be compared to any alleged harm in secondary markets, such as licensing the sampled songs. Optimally, the present research would open the door to these studies, which would lead to a quantitative analysis of what Market Effect digital sampling has, in contrast to the current qualitative and subjective arguments that courts presently rely on.

APPENDIX A: *ALL DAY* SAMPLE LIST

- 2 Live Crew - Banned in the U.S.A.
- 2 Live Crew - Get it Girl
- 2Pac - Me Against the World
- 2Pac ft. KC & Jojo - How Do U Want It
- 8Ball & MJG - You Don't Want Drama
- 50 Cent - Disco Inferno
- 50 Cent - Get Up
- 50 Cent - Wanksta
- 50 Cent - Window Shopper
- a-ha - Take on Me
- Aaliyah - Try Again
- Afro-Rican - Give it All You Got (Doggy Style)
- Christina Aguilera ft. Nicki Minaj - Woohoo
- Amerie - Why R U
- Aphex Twin - Windowlicker
- Arcade Fire - Wake Up
- Art of Noise - Moments in Love
- Arts & Crafts - Surely
- B.o.B. ft. Bruno Mars - Nothin' on You
- B.o.B. ft. Rich Boy - Haterz Everywhere
- B.o.B. ft. T.I. & Playboy Tre - Bet I Bust
- Baby Bash ft. Lloyd - Good for My Money
- Bananarama - Cruel Summer
- The Bangz - Found My Swag
- David Banner - Get Like Me
- Barbee ft. Trina - Come See About Me
- Rob Base and DJ E-Z Rock - Joy and Pain
- Basement Jaxx - Where's Your Head At?
- Beastie Boys - Hey Ladies
- Beastie Boys - Intergalactic
- Beastie Boys - Paul Revere
- Beastie Boys - Root Down
- Beck - Loser
- Pat Benatar - Heartbreaker
- Big Boi - Shutterbug
- Big Daddy Kane - Smooth Operator
- Big Tymers - Still Fly
- Birdman ft. Drake & Lil Wayne - Money to Blow
- Birdman ft. Lil Wayne & Kevin Rudolf - I Want It All

- Black Box - Everybody Everybody
- Black Eyed Peas - Boom Boom Pow
- Black Rob - Whoa!
- Black Sabbath - War Pigs
- Blondie - Dreaming
- Blue Oyster Cult - (Don't Fear) The Reaper
- Bone Thugs-n-Harmony - 1st of tha Month
- Boogie Down Productions - South Bronx
- The Brothers Johnson - Strawberry Letter 23
- James Brown - Funky Drummer
- Ron Browz and Jim Jones ft. Juelz Santana - Pop Champagne
- Bun B ft. Webbie & Juvenile - Pop It 4 Pimp
- Bush - Glycerine
- Busta Rhymes - Dangerous
- Busta Rhymes - Make It Clap
- Busta Rhymes ft. Swizz Beatz - Stop the Party
- Cali Swag District - Teach Me How to Dougie
- Cals ft. Styles P - See Through the Walls (Remix)
- Belinda Carlisle - Heaven Is a Place on Earth
- The Cars - Moving in Stereo
- Cassidy - Face to Face
- Cassidy ft. Swizz Beatz - B-Boy Stance
- Chelley - Took the Night
- Chick Da Flyest ft. Travis Porter - Marvelous
- Chubb Rock - Treat 'Em Right
- Citizen King - Better Days (And the Bottom Drops Out)
- The Clash - Should I Stay or Should I Go
- George Clinton - Atomic Dog
- Clipse - Champion
- Clipse - I'm Good
- Dennis Coffey - Scorpio
- Collective Soul - Shine
- Lyn Collins - Think (About It)
- Cream - Sunshine of Your Love
- Crime Mob - Knuck If You Buck
- Crooked I - Everything
- Cypress Hill - How I Could Just Kill a Man
- Miley Cyrus - Party in the U.S.A.
- The D.O.C. - It's Funky Enough

- DJ Amaze - I Wanna Rock
- DJ Class - I'm the Ish
- DJ Funk - Pop Those Thangs
- DJ Jubilee - Get Ready
- DJ Laz ft. Flo Rida & Casely - Move Shake Drop
- DJ OGB ft. Francisco & Gemeni - Hands Up
- DJ Unk - Futuristic Slide
- DMX - Party Up (Up In Here)
- DMX - What's My Name
- DMX ft. Sheek - Get at Me Dog
- Daft Punk - Digital Love
- Daft Punk - One More Time
- Daft Punk - Television Rules the Nation
- Darude - Sandstorm
- De La Soul - Me Myself and I
- Ester Dean - Drop It Low
- Deftones - Around the Fur
- Dem Boyz ft. Baby Boy Nate - Supa Dupa
- Depeche Mode - Just Can't Get Enough
- Derek and the Dominos - Layla
- Devo - Gates of Steel
- Devo - Whip It
- Neil Diamond - Cherry, Cherry
- Diamond - Lotta Money
- Diddy - Dirty Money ft. Rick Ross & Nicki Minaj
- Diddy - Tell Me
- Digital Underground - The Humpty Dance
- Dirtbag & Timbaland - Here We Go
- The Disco Four - Move to the Groove
- Dominique Young Unique - Show My Ass
- The Doors - Waiting For The Sun
- Dorrough - Ice Cream Paint Job
- Dr. Dre ft. Snoop Dogg, Nate Dogg, & Kurupt - The Next Episode
- Dr. Octagon - Blue Flowers
- Drake - Over
- Drake ft. Kanye West, Lil Wayne, & Eminem - Forever
- E-40 ft Shawty Lo - Break Ya Ankles
- Electric Light Orchestra - Mr. Blue Sky
- Missy Elliot - Get Ur Freak On

- Missy Elliot ft. Ludacris - Gossip Folks
- Eminem ft. Dr. Dre & 50 Cent - Crack a Bottle
- Gloria Estefan - Words Get in the Way
- Expose - Point of No Return
- Fabolous - Young'n (Holla Back)
- Fabolous ft. Nate Dogg - Can't Deny It
- Fatman Scoop - Party Anthem
- Fine Young Cannibals - Good Thing
- Fine Young Cannibals - Good Thing (Prince Paul Remix)
- Flo Rida ft. Kesha - Right Round
- A Flock of Seagulls - I Ran
- The Four Tops - Reach Out I'll Be There
- Foxy Brown - Hot Spot
- Frederico Franchi - Cream
- Free School ft. Kelis & Apl.De.Ap
- Freeway ft. Peedi Crack - Flipside
- Doug E. Fresh - La Di Da Di
- Fugazi - Waiting Room
- GZA - Liquid Swords
- Peter Gabriel - In Your Eyes
- Gang Starr ft. Nice & Smooth - DWYCK
- Sean Garrett ft. Drake - Feel Love
- General Public - Tenderness
- Genesis - Tonight, Tonight, Tonight
- Ghost Town DJ's - My Boo
- Ginuwine - Pony
- Ginuwine ft. Timbaland & Missy Elliot - Get Involved
- The Go-Go's - We Got The Beat
- Grand Funk Railroad - We're an American Band
- The Grass Roots - Let's Live for Today
- Grateful Dead - Casey Jones
- Gucci Mane - I'm The Shit
- Gucci Mane - Making Love to the Money
- Gucci Mane ft. Swizz Beatz - Gucci Time
- Gucci Mane ft. Usher - Spotlight
- Hall & Oates - You Make My Dreams
- Herbie Hancock - Rockit
- George Harrison - Got My Mind Set on You
- Harvey Danger - Flagpole Sitta
- Heavy D & the Boyz - We Got Our Own Thang

- Keri Hilson - Pretty Girl Rock
- Keri Hilson - Turnin Me On
- Hotstylz - Lookin' Boy
- INXS - Need You Tonight
- Ice Cube - It Was a Good Day
- Ice Cube - The Nigga Ya Love to Hate
- Ice Cube - We Be Clubbin'
- Billy Idol - Dancing with Myself
- Billy Idol - Mony Mony
- The Isley Brothers - Shout
- J-Kwon - Tipsy '09
- J-Kwon - Yeah
- J. Cole - Blow Up
- JC ft. Yung Joc - Vote 4 Me
- Janet Jackson - Love Will Never Do (Without You)
- Janet Jackson - Someone to Call My Lover
- Joe Jackson - Steppin' Out
- Michael Jackson - Black or White
- Jackson 5 - I Want You Back
- Jadakiss ft. Swizz Beatz & OJ Da Juiceman - Who's Real
- Jane's Addiction - Jane Says
- Jay-Z - 99 Problems
- Jay-Z - D.O.A. (Death of Auto-Tune)
- Jay-Z - Dirt off Your Shoulder
- Jay-Z - Empire State of Mind
- Jay-Z ft. Amil & Ja Rule - Can I Get A...
- Jay-Z ft. Swizz Beatz - On to the Next One
- Jibbs ft. Lloyd - The Dedication (Ay DJ)
- Jodeci - It's Alright
- Joe Public - Live and Learn
- Juice - Catch a Groove
- Johnny Kemp - Just Got Paid
- Kesha - Tik Tok
- Kid 'n Play - Rollin' with Kid 'n Play
- Kid Cudi - Day 'n' Nite (Crookers Remix)
- Kid Cudi ft. Kanye West & Common -"Make Her Say"
- Jean Knight - Mr. Big Stuff
- Jordan Knight - Give It to You
- Beyonce Knowles - Diva
- Beyonce Knowles - Single Ladies (Put a Ring on It)

- Beyonce Knowles - Sweet Dreams
- Kraftwerk - More Fun to Compute
- Krave ft. Flo Rida, Pitbull, & Lil Jon - Go Crazy
- LL Cool J - Jingling Baby (Remixed but Still Jingling)
- LL Cool J ft. Jennifer Lopez - Control Myself
- Lady Gaga - Bad Romance
- Lady Gaga - LoveGame
- Cyndi Lauper - Time After Time
- The Lemon Pipers - Green Tambourine
- John Lennon - Imagine
- Lil Jon & The East Side Boyz ft. Ying Yang Twins - Get Low
- Lil Jon ft. E-40 & Sean Paul - Snap Yo Fingers
- Lil Kim ft. Mr. Cheeks - The Jump Off
- Lil Wayne - A Milli
- Lil Wil - Bust It Open
- Lisa Lisa and Cult Jam - Let the Beat Hit 'Em
- Love and Rockets - So Alive
- Ludacris - How Low
- Ludacris ft. Lil Scrappy - Everybody Drunk
- Ludacris ft. Mystikal & I-20 - Move Bitch
- Ludacris ft. Nicki Minaj - My Chick Bad
- M.I.A. - Paper Planes
- M.O.P. - Ante Up
- MC Shan - The Bridge
- MGMT - Kids
- MSTRKRFT ft. N.O.R.E. & Isis - Bounce
- Craig Mack ft. Notorius B.I.G., Mack, Rampage, LL Cool J, & Busta
- Madness - Our House
- Main Source - Looking at the Front Door
- Mandrill - Honey Butt
- Mandrill - Positive Thing
- Mann ft. Yung Sneed - Fight Come Wit It
- Master P - Ooohhhwee
- Master P ft. Weebie & Krazy - Rock It
- Method Man & Redman - Tear It Off
- George Michael - Freedom! '90
- Steve Miller - Jungle Love
- Mims - Move (If You Wanna)

- Nicki Minaj - Your Love
- Kylie Minogue - Can't Get You Out of My Head
- Modern English - I Melt with You
- Alanis Morissette - You Oughta Know
- Mr. Cheeks ft. Missy Elliot, Diddy, & Petey Pablo - Lights, Camera, Action! (Remix)
- Mr. Oizo - Flat Beat
- N.E.R.D. - Everybody Nose (All the Girls Standing in the Line for the Bathroom)
- N.W.A. - Appetite For Destruction
- N.W.A. - Express Yourself
- N.W.A. - Straight Outta Compton
- Nas - Got Ur Self A...
- Naughty by Nature - Everything's Gonna Be Alright
- New Edition - If It Isn't Love
- New Order - Bizarre Love Triangle
- Nine Inch Nails - Closer
- Nirvana - Aneurysm
- Nirvana - In Bloom
- The Notorious B.I.G. - Hypnotize
- The Notorious B.I.G. - Nasty Boy
- The Notorious B.I.G. ft. Diddy, Nelly, Jagged Edge & Avery Storm - Nasty Girl
- O'mega Red & Detail - Endz
- OMG Girlz - Haterz
- Ol Dirty Bastard - Shimmy Shimmy Ya
- OutKast ft. Sleepy Brown - The Way You Move
- Outkast - B.O.B.
- The Pack - This Shit Slappin'
- Robert Palmer - Addicted to Love
- Party Boyz ft. Dorrough & Charlie Boy - Flex (Remix)
- Katy Perry - California Gurls
- Pet Shop Boys - Opportunies (Let's Make Lots of Money)
- Phoenix - 1901
- Pitbull - Hotel Room Service
- Pitbull ft. Honorebel - I Wanna
- Pitbull ft. Lil Jon - Krazy
- Iggy Pop - Lust for Life
- Travis Porter - Go Shorty Go
- Portishead - Sour Times

- Billy Preston - Nothing from Nothing
- Prince - Delirious
- Prince - Gett Off
- Project Pat & Juicy J - Twerk That
- Eric Prydz - Pjanoo
- Public Enemy - Bring the Noise
- Public Enemy - Public Enemy No. 1
- Radiohead - Creep
- Radiohead - Idioteque
- Rage Against The Machine - Killing in the Name Of
- The Ramones - Blitzkrieg Bop
- Rancid - Ruby Soho
- The Rapture - House of Jealous Lovers
- Ray J ft. Ludacris - Celebration
- Rhymes - Flava In Ya Ear (Remix)
- Rosalind Rice & French Montana - Hustler
- Rich Boy - Drop
- Rihanna - Rude Boy
- Rihanna ft. Jeezy - Hard
- The Rolling Stones - Paint It Black
- Rick Ross - B.M.F. (Blowin' Money Fast)
- Run-D.M.C. - It's Tricky
- Run-D.M.C. - It's like That
- Rye Rye ft. M.I.A. - Bang
- Shorty Long - Function At the Junction
- The Showboys - Drag Rap
- Simon & Garfunkel - Cecilia
- Sir Mix-a-Lot - Posse on Broadway
- Skee-Lo - I Wish
- Slim ft. Red Cafe - Break U Down
- Frankie Smith - Double Dutch Bus
- Jimmy Smith - I'm Gonna Love Just A Little Bit More Babe
- Willow Smith - Whip My Hair
- Snoop Dogg ft. Pharrell - Drop It Like It's Hot
- Snoop Dogg ft. The-Dream - Gangsta Luv
- Soulja Boy Tell 'Em - Bird Walk
- Soulja Boy Tell 'Em - Pretty Boy Swag
- Spacehog - In the Meantime
- Britney Spears - Circus

- Bruce Springsteen - Dancing in the Dark
- Billy Squier - The Big Beat
- Starpoint - Object of My Desire
- Edwin Starr - Twenty Five Miles
- Supastaar ft. Gorilla Zoe & Yung Joc - Head N Shoulders
- Supergrass - Alright
- Swizz Beatz - It's Me Bitches
- Swizz Beatz ft. Bounty Killer - Guilty
- T'Pau - Heart and Soul
- T-No - Fucked Up
- T-Pain ft. Young Jeezy - Reverse Cowgirl
- T.I. - Rubberband Man
- T.I. ft. Keri Hilson - Got Your Back
- T. Rex - 20th Century Boy
- Talking Heads - Take Me to the River
- The Temptations - Get Ready
- Terror Squad - Lean Back
- Third Eye Blind - Semi-Charmed Life
- Three 6 Mafia - Who Run It
- Justin Timberlake - SexyBack
- The Ting Tings - That's Not My Name
- Toadies - Possum Kingdom
- Torch ft. Rick Ross, Waka Flocka Flame, Yo Gotti, N.O.R.E. - Bang Yo City
- Allen Toussaint - Get Out Of My Life Woman
- Trick Daddy ft. The Slip-N-Slide Express - Take It To Da House
- Trick Daddy ft. Trina, Co., & Deuce - Shut Up
- Trina ft. Kase & Deuce Poppi - Pull Over (Remix)
- Trina ft. Killer Mike - Look Back at Me
- Twista ft. Erika Shevon - Wetter
- U2 - Sunday Bloody Sunday
- U2 - With or Without You
- UGK - One Day
- Uncle Louie - I Like Funky Music
- Usher ft. Nicki Minaj - Lil Freak
- Usher ft. will.i.am - OMG
- V.I.C. - Wobble
- Bobby Valentino ft. Yung Joc - Beep
- Van Halen - Eruption

- Van Halen - Jump
- Waka Flocka Flame - Hard in da Paint
- Wale ft. Gucci Mane - Pretty Girls
- Warrant - Cherry Pie
- Crystal Waters - Gypsy Woman (She's Homeless)
- Barry White - I'm Gonna Love You Just A Little More Baby
- White Town - Your Woman
- White Zombie - Thunder Kiss '65
- Marva Whitney - Unwind Yourself
- The Who - Won't Get Fooled Again
- Whodini - Friends
- Whodini - I'm a Ho
- will.i.am & Nicki Minaj - Check It Out
- Duke Williams and the Extremes - Chinese Chicken
- The Edgar Winter Group - Frankenstein
- Steve Winwood- Roll with It
- Wiz Khalifa - Black and Yellow
- Yeah Yeah Yeahs - Heads Will Roll
- Ying Yang Twins - Wild Out
- Young Dro ft. Gucci Mane & T.I. - Freeze Me
- Young Jeezy - Bottom of the Map
- Young MC - Bust a Move
- The Young Rascals - Good Lovin'
- Young T ft. Treal Lee - Work Dat Lumba
- Zapp - Doo Wa Ditty (Blow That Thing)

APPENDIX B: CHART PERFORMANCE AND SAMPLE LENGTH

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Wiz Khalifa	Black and Yellow	1	10/2/2010	1:20
Katy Perry	California Gurls	1	5/29/2010	0:02
Usher ft. will.i.am	OMG	1	4/17/2010	0:10
Rihanna	Rude Boy	1	2/27/2010	0:59
B.o.B. ft. Bruno Mars	Nothin' on You	1	2/13/2010	0:18
Kesha	Tik Tok	1	10/24/2009	0:16
Jay-Z	Empire State of Mind	1	9/26/2009	1:02
Black Eyed Peas	Boom Boom Pow	1	3/28/2009	0:25
Flo Rida ft. Kesha	Right Round	1	2/14/2009	0:07
Eminem ft. Dr. Dre & 50 Cent	Crack a Bottle	1	1/31/2009	0:35
Beyonce Knowles	Single Ladies (Put a Ring on It)	1	11/1/2008	1:18
Justin Timberlake	SexyBack	1	7/22/2006	0:36
Snoop Dogg ft. Pharrell	Drop It Like It's Hot	1	10/2/2004	0:46
Terror Squad	Lean Back	1	6/26/2004	0:21
OutKast ft. Sleepy Brown	The Way You Move	1	9/27/2003	0:29
Aaliyah	Try Again	1	3/18/2000	0:29

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
The Notorious B.I.G.	Nasty Boy	1	4/26/1997	1:03
2Pac ft. KC & Jojo	How Do U Want It	1	6/15/1996	0:02
Michael Jackson	Black or White	1	11/23/1991	0:01
Janet Jackson	Love Will Never Do (Without You)	1	11/17/1990	0:01
Fine Young Cannibals	Good Thing	1	5/6/1989	1:18
Steve Winwood	Roll with It	1	6/11/1988	0:01
INXS	Need You Tonight	1	10/24/1987	1:00
George Harrison	Got My Mind Set on You	1	10/24/1987	n/a
Belinda Carlisle	Heaven Is a Place on Earth	1	9/26/1987	0:20
Billy Idol	Mony Mony	1	9/5/1987	0:13
U2	With or Without You	1	3/21/1987	1:08
Robert Palmer	Addicted to Love	1	2/8/1986	0:15
A-Ha	Take on Me	1	7/13/1985	n/a
Cyndi Lauper	Time After Time	1	4/14/1984	1:10
Van Halen	Jump	1	1/14/1984	0:01
Billy Preston	Nothing from Nothing	1	7/13/1974	0:01
Grand Funk Railroad	We're an American Band	1	7/28/1973	0:02

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Jackson 5	I Want You Back	1	11/15/1969	0:54
The Lemon Pipers	Green Tambourine	1	12/16/1967	n/a
The Four Tops	Reach Out I'll Be There	1	9/3/1966	n/a
The Rolling Stones	Paint It Black	1	5/14/1966	1:14
The Young Rascals	Good Lovin'	1	3/12/1966	0:02
Lady Gaga	Bad Romance	2	11/14/2009	0:13
Miley Cyrus	Party in the U.S.A.	2	8/29/2009	1:19
J-Kwon	Tipsy '09	2	1/17/2004	0:56
Lil Jon & The East Side Boyz ft. Ying Yang Twins	Get Low	2	5/3/2003	1:13
Bruce Springsteen	Dancing in the Dark	2	5/26/1984	0:53
The Go-Go's	We Got The Beat	2	1/30/1982	n/a
Jean Knight	Mr. Big Stuff	2	5/29/1971	0:33
Kid Cudi	Day 'n' Nite (Crookers Remix)	3	1/31/2009	0:44
Britney Spears	Circus	3	12/20/2008	n/a
50 Cent	Disco Inferno	3	12/11/2004	0:02
Janet Jackson	Someone to Call My Lover	3	6/23/2001	n/a
Love and Rockets	So Alive	3	5/20/1989	n/a

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Genesis	Tonight, Tonight, Tonight	3	2/14/1987	0:02
George Michael	Freedom! '90	3	7/27/1985	0:01
Barry White	I'm Gonna Love You Just A Little More Baby	3	4/14/1973	0:04
John Lennon	Imagine	3	10/23/1971	2:12
M.I.A.	Paper Planes	4	8/2/2008	0:02
LL Cool J ft. Jennifer Lopez	Control Myself	4	3/11/2006	0:06
Third Eye Blind	Semi-Charmed Life	4	7/5/1997	0:02
Joe Public	Live and Learn	4	3/14/1992	n/a
T'Pau	Heart and Soul	4	5/2/1987	1:03
Simon & Garfunkel	Cecilia	4	4/11/1970	1:00
Lady Gaga	LoveGame	5	3/21/2009	1:39
Jay-Z	Dirt off Your Shoulder	5	1/24/2004	n/a
Expose	Point of No Return	5	5/9/1987	n/a
Gloria Estefan	Words Get in the Way	5	6/14/1986	n/a
Hall & Oates	You Make My Dreams	5	5/2/1981	n/a
The Brothers Johnson	Strawberry Letter 23	5	7/2/1977	1:25
Cream	Sunshine of Your Love	5	1/13/1968	1:14

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Ludacris	How Low	6	12/26/2009	1:13
Lil Wayne	A Milli	6	5/10/2008	n/a
Ginuwine	Pony	6	9/7/1996	1:00
Joe Jackson	Steppin' Out	6	8/21/1982	1:11
Dennis Coffey	Scorpio	6	10/30/1971	0:23
Edwin Starr	Twenty Five Miles	6	2/15/1969	n/a
Neil Diamond	Cherry, Cherry	6	8/20/1966	n/a
Alanis Morissette	You Oughta Know	6	7/22/1995	n/a
Lil Jon ft. E-40 & Sean Paul	Snap Yo Fingers	7	4/8/2006	0:22
Kylie Minogue	Can't Get You Out of My Head	7	1/26/2002	0:43
Missy Elliot	Get Ur Freak On	7	3/24/2001	0:43
Young MC	Bust a Move	7	7/29/1989	0:54
New Edition	If It Isn't Love	7	7/2/1988	0:01
Madness	Our House	7	5/7/1983	1:05
Rihanna ft. Jeezy	Hard	8	12/5/2009	0:09
Drake ft. Kanye West, Lil Wayne, & Eminem	Forever	8	10/3/2009	n/a
Pitbull	Hotel Room Service	8	7/4/2009	1:09

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Missy Elliot ft. Ludacris	Gossip Folks	8	12/28/2002	0:30
Crystal Waters	Gypsy Woman (She's Homeless)	8	5/4/1991	0:30
Black Box	Everybody Everybody	8	8/4/1990	0:10
Prince	Gett Off	8	9/3/1983	0:01
Prince	Delirious	8	9/3/1983	0:38
The Grass Roots	Let's Live for Today	8	5/13/1967	0:01
Busta Rhymes	Dangerous	9	1/10/1998	0:09
Craig Mack ft. Notorious B.I.G, Rampage, LL Cool J Busta Rhymes	Flava In Ya Ear REMIX	9	8/13/1994	0:32
Bananarama	Cruel Summer	9	7/21/1984	0:49
A Flock of Seagulls	I Ran	9	7/10/1982	0:57
Beyonce Knowles	Sweet Dreams	10	8/8/2009	n/a
Ludacris ft. Mystikal & I-20	Move Bitch	10	6/8/2002	1:42
Jordan Knight	Give It to You	10	4/3/1999	0:01
Beck	Loser	10	1/29/1994	n/a
Warrant	Cherry Pie	10	9/8/1990	0:01
Johnny Kemp	Just Got Paid	10	5/14/1988	n/a
Pet Shop Boys	Opportunies (Let's Make Lots of Money)	10	5/31/1986	n/a

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Derek and the Dominos	Layla	10	5/13/1972	1:31
Willow Smith	Whip My Hair	11	11/6/2010	1:24
Ludacris ft. Nicki Minaj	My Chick Bad	11	3/13/2010	n/a
Big Tymers	Still Fly	11	4/13/2002	n/a
Collective Soul	Shine	11	5/7/1994	0:01
Digital Underground	The Humpty Dance	11	3/17/1990	n/a
Blue Oyster Cult	(Don't Fear) The Reaper	12	7/31/1976	2:03
50 Cent	Wanksta	13	11/30/2002	n/a
Skee-Lo	I Wish	13	4/29/1995	1:08
Nicki Minaj	Your Love	14	6/19/2010	n/a
Drake	Over	14	3/27/2010	1:20
Mr. Cheeks ft. Missy Elliot, Diddy, & Petey Pablo	Lights, Camera, Action! (Remix)	14	10/13/2001	0:02
Bone Thugs-n-Harmony	1st of tha Month	14	8/26/1995	1:04
Devo	Whip It	14	8/30/1980	n/a
Keri Hilson	Turnin Me On	15	1/3/2009	0:02
Ice Cube	It Was a Good Day	15	3/6/1993	n/a
The Who	Won't Get Fooled Again	15	7/17/1971	0:03

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
David Banner	Get Like Me	16	5/24/2008	0:32
Lil Kim ft. Mr. Cheeks	The Jump Off	17	2/8/2003	1:07
Beyonce Knowles	Diva	19	1/3/2009	0:12
Jay-Z ft. Amil & Ja Rule	Can I Get A...	19	10/3/1998	1:16
50 Cent	Window Shopper	20	11/12/2005	n/a
2 Live Crew	Banned in the U.S.A.	20	7/21/1990	0:01
Ron Browz and Jim Jones ft. Juelz Santana	Pop Champagne	22	11/1/2008	0:29
Dr. Dre ft. Snoop Dogg, Nate Dogg, & Kurupt	The Next Episode	23	5/27/2000	0:02
White Town	Your Woman	23	3/29/1997	0:02
Pat Benatar	Heartbreaker	23	12/22/1979	n/a
Steve Miller	Jungle Love	23	8/6/1977	0:06
Keri Hilson	Pretty Girl Rock	24	12/11/2010	n/a
will.i.am & Nicki Minaj	Check It Out	24	9/25/2010	n/a
Jay-Z	D.O.A. (Death of Auto-Tune)	24	7/11/2009	0:02
Fabolous ft. Nate Dogg	Can't Deny It	25	7/21/2001	0:17
Citizen King	Better Days (And the Bottom Drops Out)	25	5/29/1999	n/a
Starpoint	Object of My Desire	25	9/28/1985	0:27

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Birdman ft. Drake & Lil Wayne	Money to Blow	26	10/24/2009	1:01
Peter Gabriel	In Your Eyes	26	8/30/1986	1:14
Talking Heads	Take Me to the River	26	11/4/1978	1:32
Dorrough	Ice Cream Paint Job	27	6/13/2009	1:24
DMX	Party Up (Up In Here)	27	2/26/2000	0:09
General Public	Tenderness	27	11/17/1984	1:14
Blondie	Dreaming	27	9/29/1979	0:01
Cali Swag District	Teach Me How to Dougie	28	6/12/2010	0:29
Beastie Boys	Intergalactic	28	8/1/1998	0:01
Bush	Glycerine	28	1/27/1996	n/a
The Temptations	Get Ready	29	2/26/1966	1:09
Pitbull ft. Lil Jon	Krazy	30	11/10/2008	n/a
Jay-Z	99 Problems	30	5/8/2004	0:01
T.I.	Rubberband Man	30	1/10/2004	0:01
Frankie Smith	Double Dutch Bus	30	5/16/1981	0:16
Ghost Town DJ's	My Boo	31	7/6/1996	1:23
Spacehog	In the Meantime	32	4/6/1996	0:52

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Fabolous	Young'n (Holla Back)	33	12/1/2001	1:08
Soulja Boy Tell 'Em	Pretty Boy Swag	34	7/3/2010	1:09
Radiohead	Creep	34	6/26/1993	1:34
De La Soul	Me Myself and I	34	6/3/1989	0:01
Snoop Dogg ft. The Dream	Gangsta Luv	35	11/7/2009	1:11
Electric Light Orchestra	Mr. Blue Sky	35	6/24/1978	n/a
Beastie Boys	Hey Ladies	36	8/5/1989	1:07
Jay-Z ft. Swizz Beatz	On to the Next One	37	1/30/2010	0:02
Lisa Lisa and Cult Jam	Let the Beat Hit 'Em	37	6/22/1991	0:03
T.I. ft. Keri Hilson	Got Your Back	38	6/19/2010	n/a
Ester Dean	Drop It Low	38	9/26/2009	0:06
The Ting Tings	That's Not My Name	39	12/20/2008	n/a
DMX ft. Sheek	Get at Me Dog	39	2/28/1998	0:01
Usher ft. Nicki Minaj	Lil Freak	40	3/20/2010	0:41
Nine Inch Nails	Closer	41	6/11/1994	1:57
Gucci Mane ft. Usher	Spotlight	42	11/14/2009	0:13
Kid Cudi ft. Kanye West & Common	Make Her Say	43	6/27/2009	0:21

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Black Rob	Whoa!	43	3/4/2000	0:09
Twista ft. Erika Shevon	Wetter	44	6/13/2009	0:49
50 Cent	Get Up	44	11/1/2008	0:12
The Notorious B.I.G. ft. Diddy, Nelly, Jagged Edge & Avery Storm	Nasty Girl	44	12/17/2005	0:02
The Clash	Should I Stay or Should I Go	45	7/17/1982	0:26
Busta Rhymes	Make It Clap	46	11/9/2002	0:10
Diddy	Tell Me	47	11/4/2006	0:09
The Isley Brothers	Shout	47	9/27/1959	1:14
Trick Daddy ft. The Slip-N-Slide Express	Take It To Da House	50	3/10/2001	0:11
James Brown	Funky Drummer	51	3/21/1970	1:20
Portishead	Sour Times	53	2/11/1995	1:08
Naughty by Nature	Everything's Gonna Be Alright	53	2/8/1992	0:01
Bobby Valentino ft. Yung Joc	Beep	55	1/3/2009	0:03
DJ Laz ft. Flo Rida & Casely	Move Shake Drop	57	5/24/2008	0:42
Run-D.M.C.	It's Tricky	57	2/28/1987	n/a
Rob Base and DJ E-Z Rock	Joy and Pain	58	5/27/1989	n/a
Rick Ross	B.M.F. (Blowin' Money Fast)	60	7/24/2010	1:02

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Mims	Move (If You Wanna)	61	2/7/2009	0:02
Daft Punk	One More Time	61	2/10/2001	0:07
Ol Dirty Bastard	Shimmy Shimmy Ya	62	5/20/1995	1:06
Master P	Ooohhhwee	63	12/29/2001	n/a
Lyn Collins	Think (About It)	66	9/2/1972	0:04
DMX	What's My Name	67	1/15/2000	0:01
Sir Mix-a-Lot	Posse on Broadway	70	12/17/1988	1:15
Herbie Hancock	Rockit	71	9/10/1983	0:02
B.o.B. ft. T.I. & Playboy Tre	Bet I Bust	72	5/8/2010	0:05
T-Pain ft. Young Jeezy	Reverse Cowgirl	75	4/10/2010	n/a
Crime Mob	Knuck If You Buck	76	8/14/2004	n/a
Modern English	I Melt with You	76	6/23/1990	1:24
Cypress Hill	How I Could Just Kill a Man	77	2/22/1992	0:16
Christina Aguilera ft. Nicki Minaj	Woohoo	79	2010	0:06
Swizz Beatz	It's Me Bitches	83	4/28/2007	n/a
Darude	Sandstorm	83	7/21/2001	n/a
Trick Daddy ft. Trina, Co., & Deuce	Shut Up	83	5/20/2000	0:42

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Phoenix	1901	84	12/19/2009	0:12
Nas	Got Ur Self A...	87	12/15/2001	0:01
Whodini	Friends	87	1/5/1985	1:30
MGMT	Kids	91	3/21/2009	0:07
Foxy Brown	Hot Spot	91	1/23/1999	0:38
Trina ft. Kase & Deuce Poppi	Pull Over (Remix)	93	9/9/2000	0:31
V.I.C.	Wobble	94	7/4/1905	0:13
Freeway ft. Peedi Crack	Flipside	95	6/7/2003	0:01
Chubb Rock	Treat 'Em Right	95	5/18/1991	0:18
Shorty Long	Function At the Junction	97	9/24/1966	n/a
New Order	Bizarre Love Triangle	98	7/22/1995	1:08
Allen Toussaint	Get Out Of My Life Woman	n/a	n/a	0:02
Beastie Boys	Paul Revere	n/a	n/a	0:02
Beastie Boys	Root Down	n/a	n/a	0:11
2 Live Crew	Get it Girl	n/a	n/a	0:12
Barbee ft. Trina	Come See About Me	n/a	n/a	0:22
DJ Class	I'm the Ish	n/a	n/a	0:44

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Amerie	Why R U	n/a	n/a	0:58
Arcade Fire	Wake Up	n/a	n/a	1:01
Big Boi	Shutterbug	n/a	n/a	1:13
Depeche Mode	Just Can't Get Enough	n/a	n/a	1:14
Basement Jaxx	Where's Your Head At?	n/a	n/a	1:17
Aphex Twin	Windowlicker	n/a	n/a	1:42
Afro-Rican	Give it All You Got (Doggy Style)	n/a	n/a	1:47
8Ball & MJG	You Don't Want Drama	n/a	n/a	n/a
Art of Noise	Moments in Love	n/a	n/a	n/a
Arts & Crafts	Surely	n/a	n/a	n/a
Billy Idol	Dancing with Myself	n/a	n/a	n/a
DJ Jubilee	Get Ready	n/a	n/a	n/a
Billy Squier	The Big Beat	n/a	n/a	0:01
Chelley	Took the Night	n/a	n/a	0:01
Dr. Octagon	Blue Flowers	n/a	n/a	0:01
Gang Starr ft. Nice & Smooth	DWYCK	n/a	n/a	0:01
Mandrill	Positive Thing	n/a	n/a	0:01

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
N.W.A.	Straight Outta Compton	n/a	n/a	0:01
Nirvana	In Bloom	n/a	n/a	0:01
Public Enemy	Public Enemy No. 1	n/a	n/a	0:01
Rancid	Ruby Soho	n/a	n/a	0:01
Harvey Danger	Flagpole Sitta	n/a	n/a	0:01
Ice Cube	The Nigga Ya Love to Hate	n/a	n/a	0:01
N.W.A.	Appetite For Destruction	n/a	n/a	0:01
Grateful Dead	Casey Jones	n/a	n/a	0:02
The Pack	This Shit Slappin'	n/a	n/a	0:02
Diamond	Lotta Money	n/a	n/a	0:02
Doug E. Fresh	La Di Da Di	n/a	n/a	0:03
Jibbs ft. Lloyd	The Dedication (Ay DJ)	n/a	n/a	0:03
Busta Rhymes ft. Swizz Beatz	Stop the Party	n/a	n/a	0:04
E-40 ft Shawty Lo	Break Ya Ankles	n/a	n/a	0:04
Frederico Franchi	Cream	n/a	n/a	0:06
Young T ft. Treal Lee	Work Dat Lumba	n/a	n/a	0:06
The Cars	Moving in Stereo	n/a	n/a	0:06

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Van Halen	Eruption	n/a	n/a	0:07
Hotstylz	Lookin' Boy	n/a	n/a	0:08
Ice Cube	We Be Clubbin'	n/a	n/a	0:09
Trina ft. Killer Mike	Look Back at Me	n/a	n/a	0:09
Swizz Beatz ft. Bounty Killer	Guilty	n/a	n/a	0:10
Bun B ft. Webbie & Juvenile	Pop It 4 Pimp	n/a	n/a	0:10
Deftones	Around the Fur	n/a	n/a	0:10
Travis Porter	Go Shorty Go	n/a	n/a	0:11
Yeah Yeah Yeahs	Heads Will Roll	n/a	n/a	0:13
Boogie Down Productions	South Bronx	n/a	n/a	0:15
The Edgar Winter Group	Frankenstein	n/a	n/a	0:15
LL Cool J	Jingling Baby (Remixed but Still Jingling)	n/a	n/a	0:16
George Clinton	Atomic Dog	n/a	n/a	0:16
Method Man & Redman	Tear It Off	n/a	n/a	0:18
Whodini	I'm a Ho	n/a	n/a	0:18
GZA	Liquid Swords	n/a	n/a	0:20
Jane's Addiction	Jane Says	n/a	n/a	0:21

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Kid 'n Play	Rollin' with Kid 'n Play	n/a	n/a	0:22
Birdman ft. Lil Wayne & Kevin Rudolf	I Want It All	n/a	n/a	0:22
Ludacris ft. Lil Scrappy	Everybody Drunk	n/a	n/a	0:22
Party Boyz ft. Dorrough & Charlie Boy	Flex (Remix)	n/a	n/a	0:24
Jadakiss ft. Swizz Beatz & OJ Da Juiceman	Who's Real	n/a	n/a	0:25
U2	Sunday Bloody Sunday	n/a	n/a	0:26
N.E.R.D.	Everybody Nose (All the Girls Standing in the Line for the Bathroom)	n/a	n/a	0:27
The Doors	Waiting For The Sun	n/a	n/a	0:29
Crooked I	Everything	n/a	n/a	0:31
Rage Against The Machine	Killing in the Name Of	n/a	n/a	0:37
MC Shan	The Bridge	n/a	n/a	0:38
N.W.A.	Express Yourself	n/a	n/a	0:41
Rye Rye ft. M.I.A.	Bang	n/a	n/a	0:42
The Notorious B.I.G.	Hypnotize	n/a	n/a	0:43
Master P ft. Weebie & Krazy	Rock It	n/a	n/a	0:43
Daft Punk	Television Rules the Nation	n/a	n/a	0:47
OMG Girlz	Haterz	n/a	n/a	0:47

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Soulja Boy Tell 'Em	Bird Walk	n/a	n/a	0:48
UGK	One Day	n/a	n/a	0:53
Project Pat & Juicy J	Twerk That	n/a	n/a	0:58
MSTRKRFT ft. N.O.R.E. & Isis	Bounce	n/a	n/a	0:58
T. Rex	20th Century Boy	n/a	n/a	0:58
Young Dro ft. Gucci Mane & T.I.	Freeze Me	n/a	n/a	1:03
Fugazi	Waiting Room	n/a	n/a	1:04
Outkast	B.O.B.	n/a	n/a	1:05
J. Cole	Blow Up	n/a	n/a	1:07
Ying Yang Twins	Wild Out	n/a	n/a	1:08
Mr. Oizo	Flat Beat	n/a	n/a	1:11
Gucci Mane ft. Swizz Beatz	Gucci Time	n/a	n/a	1:12
Iggy Pop	Lust for Life	n/a	n/a	1:13
Supergrass	Alright	n/a	n/a	1:13
Radiohead	Idioteque	n/a	n/a	1:14
Nirvana	Aneurysm	n/a	n/a	1:16
Three 6 Mafia	Who Run It	n/a	n/a	1:16

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
B.o.B. ft. Rich Boy	Haterz Everywhere	n/a	n/a	1:17
Waka Flocka Flame	Hard in da Paint	n/a	n/a	1:20
Dominique Young Unique	Show My Ass	n/a	n/a	1:21
The Disco Four	Move to the Groove	n/a	n/a	1:22
White Zombie	Thunder Kiss '65	n/a	n/a	1:25
Devo	Gates of Steel	n/a	n/a	1:25
Daft Punk	Digital Love	n/a	n/a	1:28
The Rapture	House of Jealous Lovers	n/a	n/a	1:28
The Ramones	Blitzkrieg Bop	n/a	n/a	1:29
Toadies	Possum Kingdom	n/a	n/a	1:36
Black Sabbath	War Pigs	n/a	n/a	2:05
Lil Wil	Bust It Open	n/a	n/a	2:14
Gucci Mane	I'm The Shit	n/a	n/a	2:22
M.O.P.	Ante Up	n/a	n/a	2:31
The Bangz	Found My Swag	n/a	n/a	n/a
The D.O.C.	It's Funky Enough	n/a	n/a	n/a
Wale ft. Gucci Mane	Pretty Girls	n/a	n/a	n/a

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
Baby Bash ft. Lloyd	Good for My Money	n/a	n/a	n/a
Big Daddy Kane	Smooth Operator	n/a	n/a	n/a
Cals ft. Styles P	See Through the Walls (Remix)	n/a	n/a	n/a
Cassidy ft. Swizz Beatz	B-Boy Stance	n/a	n/a	n/a
Clipse	Champion	n/a	n/a	n/a
Clipse	I'm Good	n/a	n/a	n/a
DJ OGB ft. Francisco & Gemeni	Hands Up	n/a	n/a	n/a
Duke Williams and the Extremes	Chinese Chicken	n/a	n/a	n/a
Eric Prydz	Pjanoo	n/a	n/a	n/a
Ginuwine ft. Timbaland & Missy Elliot	Get Involved	n/a	n/a	n/a
Gucci Mane	Making Love to the Money	n/a	n/a	n/a
Heavy D & the Boyz	We Got Our Own Thang	n/a	n/a	n/a
Jodeci	It's Alright	n/a	n/a	n/a
Kraftwerk	More Fun to Compute	n/a	n/a	n/a
Main Source	Looking at the Front Door	n/a	n/a	n/a
Mann ft. Yung Sneed	Fight Come Wit It	n/a	n/a	n/a
Marva Whitney	Unwind Yourself	n/a	n/a	n/a

Artist	*Song Title*	*Billboard Chart Peak*	*Billboard Peak Date*	*Sample Length*
O'mega Red & Detail	Endz	n/a	n/a	n/a
Pitbull ft. Honorebel	I Wanna	n/a	n/a	n/a
Public Enemy	Bring the Noise	n/a	n/a	n/a
Rich Boy	Drop	n/a	n/a	n/a
Run-D.M.C.	It's like That	n/a	n/a	n/a
Sean Garrett ft. Drake	Feel Love	n/a	n/a	n/a
2Pac	Me Against the World	n/a	n/a	n/a
Young Jeezy	Bottom of the Map	n/a	n/a	n/a
Zapp	Doo Wa Ditty (Blow That Thing)	n/a	n/a	n/a